

AN EVALUATION OF THE TEACHER EDUCATION PROGRAM  
AT WILLIAM PENN COLLEGE  
1983 - 1987

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Presented to  
The Graduate School of Education  
Drake University

In Partial Fulfillment  
of the Requirements for the Degree  
Doctor of Education

by  
Joy Prothero-Smith

May 1989

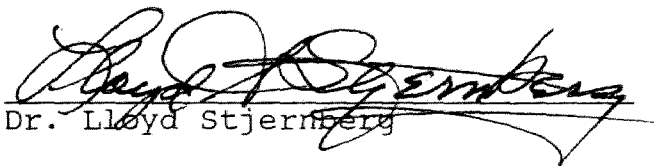
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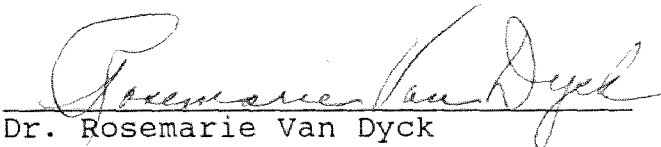
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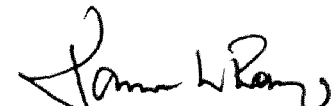
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An abstract of a Dissertation by  
Joy Prothero-Smith  
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The problem. The purpose of this study was to evaluate the undergraduate teacher education program at William Penn College based upon a survey of the graduates' perceptions of the program from 1983-1987, as to the effectiveness and expected benefits of the program.

Procedure. Graduate records were used to identify the names and addresses of all William Penn College teacher education graduates from May 1983 through August 1987. All students were identified as having graduated with a teaching certificate from the State of Iowa. The number of graduates who comprised the total population under consideration was 194. The survey was designed to obtain perceived achievement of program objectives and of program objectives relating to job importance. The original mailing was followed by three sets of phone calls to all graduates. These calls resulted in a return of 74 percent of the surveys to graduates. The data represented the percentage of responses and mean values of the program objectives. The data was divided between elementary graduates, secondary graduates, elementary supervisors, and secondary supervisors according to the seven stated hypotheses. MANOVA tests and a nonparametric test were used to test the hypotheses.

Findings. The graduates' perceptions of their program objectives were significant for each of the seven hypotheses. Significance ( $P < .05$ ) was found between the mean values by groups. Graduates were satisfied about the perceived achievement of program objectives. There were significant differences between groups.

Conclusions. There is a relationship between the graduate's major (elementary, secondary) and the graduates perceived achievement of certain program objectives and their job importance regarding the concepts by which the education program was founded upon at William Penn College.

Recommendations. Further research is recommended to continue as a follow-up study of the teacher education program based upon the program objectives. These studies may determine areas of change due to changing demands placed upon the teaching profession.

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## CHAPTER 1

### Introduction

#### Identification of the Problem

In recent years teacher training institutions have been faced with a number of changes. Some of these changes are due to external factors such as declining teaching positions, school reorganization, and budget deficiencies. Internal factors may include the raising or maintaining of standards to enter the teacher training preparation program. Teacher competency has come under public criticism; therefore, possible legislative mandates for higher standards are being considered.

An educational program that is competitive with other accredited institutions must have a systematic, valid procedure for evaluating the training, the teaching, and total process of preparing teachers. Evaluation is a method to assess all influential factors determining the well-being of the teacher education program.

#### Purpose of the Study

Planning for the future of the teacher education program at William Penn College is an important concern for the College and the Department of Education. The William Penn College teacher education program was evaluated by the National Council on Accreditation for Teacher Education

(NCATE) in 1985. The next visit will be in 1992. As part of the accreditation review, NCATE will review the institution's response to Standard II. NCATE Redesign Standard II states: (1987)

The unit maintains relationships with graduates from its professional education program that include follow-up studies and assistance to beginning professionals.

Criteria for Compliance:

- (33) The unit keeps abreast of emerging evaluation techniques and engages in regular and systematic evaluations, including follow-up studies, to determine the success and quality of graduates in the professional education roles for which they were prepared.
- (34) The results of evaluation efforts, including follow-up studies of graduates, are used by the unit to modify and improve programs.
- (35) The unit has developed arrangements with school districts in the area to provide assistance to its graduates who are first-year teachers and/or who are beginning their professional education roles as an extension of their professional education program.

Therefore, the purpose of this study was to evaluate the undergraduate teacher education program at William Penn College based upon a survey of the graduates' perceptions of the program from 1983-1987, as to the effectiveness and expected benefits of the program. (See Program Objectives, Appendix A.)

Specific questions that this study will address are:

1. What are strengths and weaknesses, according to the perceptions of graduates, of the William Penn College teacher education program?

2. What are the strengths and weaknesses, according to the supervisors of graduates, of the William Penn College teacher education program?

3. How do the elementary and secondary major graduates of William Penn College's teacher education program perceive their achievement of program objectives in preparing them to be teachers?

4. How do the elementary graduates and their supervisors compare in their perception of program objective achievements of the William Penn College teacher education program?

5. How do the secondary graduates and their supervisors compare in their perception of program objective achievement of the William Penn College teacher education program?

6. What is the comparison between elementary and secondary graduates as to their perceived view of program objectives related to job importance?

7. What is the comparison between elementary graduates and their supervisors as to their perceived view of program objectives related to job importance?

8. What is the comparison between secondary graduates and their supervisors as to their perceived view of program objectives related to job importance?

9. How do the graduates of the teacher education program perceive the achievement of program objectives according to year of graduation, 1983-84-85-86-87?

### Hypotheses

The null hypotheses are:

1. There is no significant difference between the elementary and secondary majors in their perceived achievement of program objectives.
2. There is no significant difference between the elementary graduates and their supervisors in their perceived achievement of program objectives.
3. There is no significant difference between the secondary graduates and their supervisors in their perceived achievement of program objectives.
4. There is no significant difference between the elementary and secondary graduates in their perceived view of program objectives related to job importance.
5. There is no significant difference between the elementary graduates and their supervisors in their perceived view of program objectives related to job importance.
6. There is no significant difference between the secondary graduates and their supervisors in their perceived view of program objectives related to job importance.
7. There is no significant difference between the graduates' perceived achievement of program objectives based upon the year of graduation, 1983-84-85-86-87.

### Importance of the Study

Educators, administrators, and supervising personnel working with pre-service teachers have been assuming the responsibility for the performance of their education graduates. Teacher education programs have been faced with internal and external mandates that have been demanding Department of Education chairpersons to identify the objectives and to measure the results and teaching performances of the graduates.

There is a movement toward being accountable. The goals and objectives of teacher education programs are being redefined and assessed as to their accountability of achievement. The purpose of assessing these educational outcomes is to produce information for making long-range decisions.

William Penn College has had previous follow-up evaluations following each five-year span. It has been recommended in the Institutional Report of the Teacher Education Program prepared for the National Council for Accreditation of Teacher Education visit on March 25-27, 1985 that a follow-up study be completed of graduates from 1983 through 1987. The primary objective of this study is to solicit feedback and comments from the William Penn College teaching graduates about the effectiveness of their pre-service instruction. The major purpose of this study was to increase awareness within the college faculty,

administrators, and pre-service as well as in-service teachers of the perceived benefits of the William Penn teacher education program.

#### Delimitations of the Study

This study was limited to an evaluation of the William Penn College graduates certified by the Iowa Department of Public Instruction after completing the undergraduate teacher education program requirements from May 1983 through August 1987.

#### Limitation of the Study

This research was conducted as a follow-up study. The study had a basic limitation in finding the graduates from the program in 1983 through August 1987. Only the surveys returned by the subjects with teaching experience were analyzed for statistical and non-statistical data.

#### Definition of Terms

For the purpose of this study, the term perception refers to an awareness, an understanding, or an interpreted comprehension in reference to the teaching preparation experienced by those graduates evaluated.

The word graduates refers to those students completing William Penn College's teacher education program requirements and who have been certified by the State of Iowa Department of Public Instruction during the time period from May 1983 through August 1987.

The term teacher education refers to only the William Penn College teacher education program.

The term accreditation refers to the authorization and approval for maintaining high quality standards in the teacher education program at William Penn College by the National Council on Accreditation for Teacher Education (NCATE), North Central Association (NCA), and the Iowa Department of Education (DOE).

#### Summary

Increased demands have been placed upon higher education program standards required for the teaching profession. Educators are being held accountable for learning outcome levels. These factors have been influenced by results from on-going evaluations conducted on a regular basis.

## CHAPTER 2

### Review Of The Literature

A review of related research and professional literature pertinent to the evaluation of teacher education is presented in this chapter. The need for evaluation of teacher education programs is addressed. The literature reviewed analyzed various models of evaluation.

#### Need for Teacher Education Evaluation

Historically school evaluations focused on school curriculum. In recent years, a change toward reforms aimed at merit pay and teacher evaluation have occurred. There has been a growing concern for the academic quality of students entering the teaching profession. Issues today focus on topics more directly related to teaching. As reported by Tom (1987),

Once teachers became the object of national reports, it was inevitable that teacher education would come under the scrutiny of the reformer. Those teacher education reports are now out, including such efforts at the National Commission for Excellence in teacher Education's A Call for Change in Teacher Education, the Southern Regional Education Board's Improving Teacher Education: An Agenda for Higher Education and the Schools, and the California Commission on the Teaching Profession's Who Will Teach Our Children? There also have been numerous reports commissioned by governors and state departments of education. (p. 7)

There are three main reports currently receiving the most attention: NCATE Redesign; the Holmes Group report, Tomorrow's Teachers; and the Carnegie Task Force on Teaching



as a Profession report, A Nation Prepared: Teachers for the 21st Century.

The Holmes Group report was commissioned in 1983, with the deans of schools or colleges of education from seventeen research-oriented universities for the purpose of finding ways to improve teacher education at their own universities. The group increased to thirty-nine by 1985. Private interest in the group's findings also increased. The focus of the initial group changed from identifying and correcting their individual problems to that of rethinking of teacher education in all higher education institutions for purposes of reform. The final report extended its emphasis to include the whole teaching profession. As reported by Tom (1987),

The Holmes Group according to the report's preface, wishes to see nothing less than the transformation of teaching from an occupation into a genuine profession.

In its pursuit of the twin purposes of reforming teacher education and the teaching profession, the Holmes Group report focuses on five major goals:

1. To make the education of teachers intellectually sound.
2. To recognize differences in knowledge, skill, and commitment among teachers.
3. To create relevant and defensible standards of entry to the teaching profession.
4. To connect schools of education with elementary and secondary schools in their community.
5. To make schools better places for practicing teachers to work and learn. (p. 15)

The Carnegie Task Force on Teaching as a Profession, A Nation Prepared: Teachers for the 21st Century, viewed teacher education as a process to change the entire profession of teaching. The Carnegie Task Force strongly emphasized the problems with working conditions. The result was a strong recommendation of a measure to assess the extent to which students have attained the knowledge of general education, subject matter, and teaching practices. The assessment techniques employed would include observation as well as written exams. The task force also pointed out that four years of college training is not sufficient time in which to master all subject matter and skills that need to be acquired. This task force recommended the formation of a National Board for Professional Teaching Standards. As reported by Tom (1987).

The NCATE Redesign included a wide cross-section of educational parties interested in teacher preparation. NCATE represents the National Councils for Accreditation of Teacher Education, and it is the national accrediting agency for higher education institutions which prepare teachers. The Council was created in 1954 and has had a comprehensive set of standards by which teacher education programs must be measured in order to be accredited or approved. As reported by Tom (1987),

Under the NCATE Redesign, adopted in 1985 and to be fully implemented in 1988, there will be 19 standards, but with 94 compliance criteria associated with these 19 standards. The 19 redesigned standards are now

clustered into five groupings: knowledge base for professional education, relationship to the world of practice, students, faculty, and governance and resources. In addition, an institution must now meet 11 preconditions in order to be eligible for an accreditation review by NCATE; under the old standards four preconditions were in effect (NCATE 1982, 1986). (p. 34)

Members selected to serve on NCATE visiting teams will be selected by a different approach. All members will be chosen from a pool of members by a Board of Examiners. Each member of the visiting team will be selected according to skill in evaluation processes, and will be trained in applying the standards.

Evaluation of teachers is controversial. Almost every state department now has a measure of assessment or evaluation for its teachers. The evaluation process may be used to improve schools. Evaluation may seem like a solution for many problems, but it may be perceived differently by those involved; i.e., teachers, the general public, teacher educators, and educational agencies. The Commission of Teacher Assessment for the Association of Teacher Educators completed a recent study. As reported by the Andrews (1988),

1. Teacher assessment should be an integral part of the larger enterprise of education. That is, it should reflect the values and the purposes of the school and be consistent with the philosophy of the school, with notions about how learning takes place, and with the process and the expected outcomes of education.
2. A program for teacher assessment should have at least five purposes:
  - a. To offer clear guidelines for the development and monitoring of preservice teacher education

- programs.
  - b. To screen candidates for regular licenses
  - c. To serve as a diagnostic device for inservice professional development.
  - d. To gather data in case of alleged incompetence and/or malpractice.
  - e. To provide information for the public.
3. Philosophies and assumptions that guide item selection for teacher tests and teacher performance appraisals should be articulated for the public and for the profession.
  4. The assessment method chosen should be appropriate for the goal and the objective being measured. If public confidence in teacher's reading, writing, and arithmetic skills is lacking, a criterion-referenced paper-and-pencil-test of those skills will indicate whether the concern is well-founded or not. The same test will not accurately predict classroom teaching skills. In other words, a paper-and-pencil test will not tell the public whether or not a teacher is a good teacher.
  5. Performance-appraisal systems should be carefully developed. The public must be made aware that assessment and performance appraisal of teachers are not easy solutions to complex problems in education, but are, in fact, a part of a complex solution to complex problems. Personnel with expertise in teaching, testing, and appraisal must diligently and deliberately develop, implement, and revise these processes. Such an evolutionary endeavor will require both time and money.

The teaching profession is at a difficult time in the evolution of productive teacher assessment and evaluation. People want these processes to have objectivity, reliability, validity, and rigor. Yet they want teachers to be open, creative, original, insightful, sensitive, and humane. Assessment and evaluation that are characterized by the former are defensible and essential, but they must not preempt teachers' becoming the latter. (p. 41-42)

Educators differ in their estimation of the worth of an educational program. Evaluation is a process that may provide a total view of a program. Educational evaluation may be formal or informal. As reported by Stake (1967),

Informal evaluation is recognized by its dependence on casual observation, implicit goals, intuitive norms, and subjective judgment. Perhaps because these are also characteristic of day-to-day personal styles of living, informal evaluation results in perspectives which are seldom questioned. Careful study reveals informal evaluation of education to be of variable quality--sometimes penetrating and insightful, sometimes superficial and distorted. Formal evaluation of education is recognized by its dependence on checklists, structured visitation by peers, controlled comparisons, and standardized testing of students. Some of these techniques have long histories of successful use. (p. 523)

Teacher evaluation has become very important in controversies such as merit pay, career ladders, etc. In order to develop an evaluation system, a definition of the nature of teaching must be stated. Teachers seem to be positive about evaluation approaches that are internal to the profession but rather negative about evaluation approaches that are external, such as those done by students, parents, and test scores. Madeline Hunter and Arthur Costa have developed evaluation systems based on their own perceptions of theories of the nature of teaching. As reported by Hiller (1987),

Madeline Hunter has become a recognized authority on teaching and learning. She views teaching as a profession based on 'a science' of human learning that becomes a 'launching pad' for the art of teaching. She defines teaching as a 'constant stream of decision making', decisions about content, learner behavior and teaching behavior. She sees a cause and effect relationship between teaching and learning and believes that the science of teaching can be taught and learned by most motivated professionals. (Hunter, 1984, p. 170)

Hunter has utilized research based theory in human behavior and learning to develop 'templates' for formative or summative evaluations of teaching

effectiveness. (p. 145)

Arthur L. Costa has developed a theory for evaluation based on the aesthetic response, including the formal, the technical, the sensuous, and the expressive quality of instruction. As reported by Hiller (1987),

Aesthetics is not concerned with what learners memorize, not even with how much they remember. Rather, aesthetic teaching is concerned with making learning 'memorable.' (p. 146)

Costa divides teaching decisions into four categories; dealing with planning, teaching, analyzing and evaluating, and applying. These four areas include objectives that may be evaluated according to the amount of interaction.

The Northwest Regional Educational Laboratory of Portland, Oregon, has published a set of guidelines to be used in designing evaluation procedures. It is essential to design the program to meet the needs of the involved groups. The first step is to decide on that which will be evaluated. The main components of evaluation deal with instruction, goals-philosophy, personnel, and management. The second decision involves the development of a rationale for the evaluation. The third discussion concerns the questions to be asked. The fourth decision is determining the method of evaluation to be used. An assessment of the research design is needed to ascertain if the results of the evaluation are in accordance with the original goals.

Daniel L. Stufflebeam of Western Michigan University defines evaluation as reported by Hord (1982),

Evaluation is the process of delineating, obtaining, and applying descriptive and judgmental information concerning the worth and merit of some program's goals, design, implementation, and impacts in order to promote improvement, serve needs for accountability, and foster understanding. (p. 138)

This definition states evaluation as an ongoing process. The process should include measures to examine questions of worth and of merit. The CIPP model designed by Stufflebeam and discussed later in this chapter is of external summative evaluation design. The results would provide the information that evaluations such as NCATE require.

#### Follow-up Studies

As a requirement for accreditation by NCATE, teacher education programs are required to have a continuous process of evaluation of the graduates from the existing teacher education programs. As reported by NCATE (1987),

Standard 11.B: Relationships with Graduates. The unit maintains relationships with graduates from its professional education programs that include follow-up studies and assistance to beginning professionals.

#### Criteria for Compliance:

- (33) The unit keeps abreast of emerging evaluation techniques and engages in regular and systematic evaluations, including follow-up studies, to determine the success and quality of graduates in the professional education roles for which they are prepared.
- (34) The results of evaluation efforts, including follow-up studies of graduates, are used by the unit to modify and improve programs.
- (35) The unit has developed arrangements with school districts in the area to provide assistance to its

graduates who are first-year teachers and/or who are beginning other professional education roles as an extension of their professional education program. (p. 42)

Institutions are often in violation of this standard. NCATE reported that fifty-eight percent of the programs reviewed in 1979 were in violation of this standard. These violations may have been due to the time, effort, and cost required to complete a follow-up evaluation. The data from such an evaluation may not be usable in program revision or planning. As reported by Katz et al. (1981),

In order to look more closely at some main problems connected with follow-up studies we undertook a survey organized around three principal research questions:

1. To what extent were the survey respondents representative of the target population?
2. What recommendations resulted from the follow-up studies?
3. To what extent does the information yielded by the follow-up studies give direction and help in program planning and revision? (p. 18)

Twenty-six follow-up studies were reviewed to answer these three research questions. The average response rate was two out of three persons surveyed. The median response rate was sixty-seven percent. Therefore, the validity of the data was lessened due to the low response rate. There were seventy recommendations, from this study. Of these recommendations, forty-eight percent of them were specific enough to suggest change. One recommendation suggested that follow-up studies ask for more comments concerning specific courses rather than asking about a total program. Another



suggestion dealt with stating possible deletions before additions could be mentioned.

Follow-up studies need to have verisimilitude. They need to have the appearance and persuasiveness of an evaluation report, as well as be able to implement the recommendations needed. The values expressed in the study dealt with social, political, and economic pressure. As reported by Adams et al. (1981),

There is much to be done in the field of teacher education evaluation. Part of the solution rests in more effective communication among ourselves; the narrow view of teacher education program evaluation presented in the Katz et al. article demonstrates the lack of communication that exists. But better communication is only a means to an end. The use of evaluation data in program decision making remains the key concern. The marriage of program evaluation with program development must occur. The task is to discover how best to bring them together. Ideally, as programs are planned, there should be concurrent design of the processes by which the program will be evaluated and the evaluation information fed back into the program for planning, modification, and decision making. In this regard, we may well be our own worst enemy. Until the architects of teacher education programs discover the utility of evaluation data and use it interactively in program design, the potential of evaluation data will not be realized. (p. 24)

#### Models of Evaluation

Evaluation is not a new process. The father of educational research, Joseph M. Rice, devised and used achievement tests as an evaluation measure during the last decade of the nineteenth century. The test published in 1904, by Alfred Binet, became the standard test for intelligence testing. Evaluation and measurement were

interchangeable concepts at this beginning stage. There was a strong correlation to the scientific paradigm of inquiry. Later this was to become a basis for educational experimentation. The focus had been on individual differences and there was little relationship with school programs and curricula. Evaluation was oriented to standardized and objective measures that were norm-referenced. This program of evaluation and measurement was about to be changed by the Tyler Rationale. Tyler insisted that the curricula needed to be organized around certain objectives. These objectives were the basis of planning. In 1949, Basic Principles of Curriculum and Instruction was released. As reported by Guba (1981),

The process of evaluation proposed by Tyler is essentially this:

1. Derive a pool of objective candidates by examining learner studies and contemporary life studies and by soliciting suggestions from content specialists.
2. Pass this pool of objective candidates through a series of three screens: philosophical, psychological, and experiential.
3. Cast the survivors of this screening process into a matrix whose rows stipulate the various areas of content involved and whose columns stipulate the behaviors of students expected in relation to those content areas. The individual cells of the matrix thus represent individual objectives.
4. Identify situations in which students can express the behavior stipulated in the objectives.

5. Examine or develop instruments capable of testing each objective. These instruments need not be paper-and-pencil tests, but they must be capable of meeting conventional standards of objectivity, reliability, and validity.
6. Apply the instruments, usually in a before-and-after paradigm, so that changes in behavior that can be imputed to the curriculum may be measured.
7. Examine the results to determine areas of strength and weaknesses in the curriculum.
8. Develop the best hypotheses that seem to account for observed pattern of strengths and weaknesses.
9. Make appropriate modifications in the curriculum and recycle the process. (p. 5)

Ralph Tyler's approach represented a major change for the refinement of curricula and program reform as a result of evaluation. The rationale was easy to understand and apply. The main disadvantage was that it lacked a measure to assess worth or merit. There was not a method to evaluate the objectives.

Cronbach published an article in 1963 entitled "Course Improvement Through Evaluation." There were three major points. The first stated that evaluation needed to focus on the decisions that the developers had to make during the time that the development was occurring. The second point stated that evaluation needed to focus on the ways in which improvements and change could be brought about while the program was in development. The third point stated that evaluation needed to be concerned with course performance

characteristics rather than comparative studies in order to gain the most from the results of the evaluation. Several years after Cronbach's plan was released the federal government emphasized a program that ended with the passage of the Elementary and Secondary Education Act of 1965.

During the mid-1960's a plethora of new models were proposed. There are more than forty models now referred to in the literature. The Countenance Model, as reported by Stake (1976), used two "data matrices" for a description matrix and two for a judgment matrix. The description matrix had two columns for intent and observation. The judgement matrix had two columns for standards and judgments. The three rows were for antecedents, transactions, and outcomes. The evaluator determined the entries for each column. The data was collected for the observation column. The main disadvantage of this model was the lack of specific guidelines for the development of standards. The twelve celled model design was complex and difficult to comprehend.

Daniel Stufflebeam (1971) developed the Context-Input-Process-Product model (CIPP). Evaluation with the CIPP model dealt with a very systematic approach which provided an ongoing evaluation procedure. The CIPP model examines current and projected needs of teacher education. It also looks at possible future opportunities as reflected in recent research on teacher education. Institutional concerns are viewed in light of potential change by assessing goals

and examining program inputs, processes, and outputs.

Scriven (1972) developed a Goal-Free model. The evaluator using this model generates two types of information. The actual effects and the needs of these effects are both assessed. The effects become the main emphasis rather than the goals or decisions. The disadvantage of this model was that there were no guidelines of what effects to look at or how to identify them

The University of Texas Research and Development Center for Teacher Education under the sponsorship of the National Institute of Education brought together a group of educators in April, 1978 for the purpose of having each describe their existing evaluation systems. Each institution utilized a different approach for evaluation. The group combined their ideas and formed a comprehensive model for evaluating teacher education at the pre-service levels of teacher education programs. As reported by Cooper and Felder (1980),

To be most useful the Model should provide:

- (1) A comprehensive framework that is useful to a variety of kinds and sizes of teacher education programs, both pre-service and in-service.
- (2) A comprehensive list of variables which can be empirically or theoretically related to the effectiveness of teacher education programs. The list would include such variables as teacher trainee and instructor characteristics, relevant context variables, training process variables, and desired outcomes of each program.
- (3) A description of diverse analytic models (sampling designs, measurement strategies, statistical procedures) which are maximally powerful and appropriate to the size and nature of the

evaluation question to be answered in a given study. (p.19)

This model could be adapted to fit programs of various-size. The ideas could support a follow-up study of graduates from a pre-service program or be used as a self-study of students currently in a program. The ideas are appropriate for a complex evaluation beginning with a pre-service program through and concluding with a study of teacher behavior from graduates.

J. T. Dillon, from the University of California, Riverside, and Stanley S. Starkman from the Chicago State University developed an evaluation model that was one of the three winners of the AACTE's 1979 "Recognition Role of Demonstrated Practices." They operate on the theory that all teacher education units need a systematic and effective approach to evaluation of programs. The purpose for evaluation is two-fold in that it needs to provide reliable information about the effectiveness of program efforts as well as meeting the standards of certifying and accrediting agencies. As reported by Dillon and Starkman (1981),

The model incorporates six features thought essential to evaluation.

- (1) It includes program modification as a result of evaluation reports.
- (2) It is field-based assessing programs from the perspective of school practitioners as well as program faculty.
- (3) It is longitudinal, following the same group of students from entry through exit and on into employment.

- (4) It includes all personnel both on-campus (faculty and students) and in the field (graduates and supervisors).
- (5) This yields reliable and comprehensive data, collected by face-to-face interviews with all graduates, for example, and analyzed by defensible statistical and computerized techniques.
- (6) It examines importance or values as well as effectiveness, revealing those program aspects more and less effective in more and less important respects. (p. 366)

This evaluation model operates on a 12-month year. The process is continual. The two main sources of data are peer review and the actual evaluation process. Faculty cooperation in this model has been positive. The positive reactions are accounted for by the systematic communication between the program and the field.

The Committee for Evaluating Teacher Education Program (CETEP) was the result of a collaboration among the Canadian universities. Together, Green et al. developed a conceptual framework for the purpose of evaluating teacher education programs. The first CETEP effort was a follow-up study of the graduates from teacher education programs in Alberta completed in 1985-1986. The study was designed to obtain teachers' views on components of courses found within the teacher education program. There were three open-ended questions concerned with strengths, weaknesses, and desired changes. The ratings were ranked from thirty items. As reported by Greene et al. (1987),

The group (CETEP) was guided by a number of principles that it believed the framework should incorporate, namely:

1. it should be comprehensive, longitudinal and multi-faceted.
2. it should incorporate a wide variety of research and evaluation designs and methodologies.
3. it should be primarily internal; that is, most of the evaluation should be done by members of the faculty, but it should allow for external evaluations.
4. it should allow for and facilitate collaborative and cooperative research with other institutions.
5. it should provide useful information for those responsible for making decisions about teacher education programs, and finally.
6. it should be possible, given the limited resources available. (p. 5)

The CETEP model was originally influenced by the ideas presented by QUALTEP which represented the "Qualitative Analysis of the University of Lethbridge (Alberta) Teacher Education Program." As reported by Dravland and Greene (1978),

The overall objective of QUALTEP is to develop a model for the evaluation of teacher education programs. Specifically the project will attempt:

- 1) to identify categories of pre-education variables which will best predict success in an education program,
- 2) to examine changes in students (attitudinal, academic, skill development, etc.),
- 3) to identify variables and categories of variables which are related to success within an education program,



- 4) to identify variables and categories of variables which are related to teacher success,
- 5) to identify characteristics of effective teachers,
- 6) to identify characteristics of ineffective teachers,
- 7) to identify characteristics of teachers who select themselves out of the program, and
- 8) to identify the most important components of a teacher education program. (p. 6-7)

This model has been center of eighteen research papers as of June, 1978, and eleven other studies have examined the interrelationships and correlations of the variables. The responses and revisions are being compiled for use in writing a research system to follow students from their first year of college through their fifth year of teaching.

Michigan State University has an ongoing cooperative evaluation program. The three main activities include data collection, data analysis and reporting, and internal program reviews. The Undergraduate Program Evaluation Committee (UPEC) was formed to provide continuity between the evaluation process and the undergraduate programs. As reported by Freeman (1986),

Faculty responsible for the design and implementation of program evaluation at MSU recognize that the program evaluation effort will succeed only if the information that is collected and reported makes a substantive contribution to deliberations focusing on the continued development and improvement of programs. Formal and informal communication networks have therefore been established to provide systematic

communication of program evaluation findings to program faculty and administrators. (p. 13)

The immediate review and communication of findings is a key to the success of the MSU program. The results carry between the undergraduate and graduate programs.

### Previous Follow-Up Studies

Program evaluation from other colleges and universities was reviewed. The results of the studies included common problems which exist in teacher education programs throughout the country. The follow-up studies mentioned will note these common problems. Studies reviewed were from Iowa State University, Louisiana State University, Tennessee Technological University, the University of Iowa, the University of Maine, and Western Kentucky University.

### Iowa State University

The Research Institute for Studies in Education at Iowa State University conducted a three-school follow-up study of teacher education graduates from these universities in 1975. As reported by Glass and Keith (1975), the 5,918 students were graduates from Iowa State University, the University of Iowa, and the University of Northern Iowa. The students had graduated in 1965, 1970, and 1974. The return rate was 75.4 percent, which accounted for 4,354 of the graduates.

The data from the study substantiated that the majority of graduates currently lived in Iowa. Over three-fourths

were or had been teaching full-time. The majority of unemployed teachers were so by choice. The graduates ranked the teacher education program as useful to their jobs. A specific recommendation was the need for more field experience.

#### Louisiana State University

C. R. Blockmon and S. A. Wilkins surveyed 261 student teachers who completed the student teaching program at Louisiana State University in 1973-1974. As reported by Blockmon and Wilkins (1974), the students stated discipline in the classroom as a main concern while student teaching was appropriate. Almost one-half of the graduates (forty-six percent) felt that the college courses had not prepared them for student teaching. Sixty-one percent did state that their attitude toward teaching as a career had improved as a result of the student teaching experience. It was recommended that the methods course to be changed.

#### Tennessee Technological University

Jerry Ayers conducted a study of the teacher preparation programs at Tennessee Technological University in 1977. As reported by Ayers (1977), students participated on a voluntary basis. Classroom control was a concern to teachers in the upper grades. The teachers were found to be knowledgeable and poised. As rated by their principals, they seemed to have the acquired characteristics of good teachers:

1) the ability to work with others; 2) positive attitudes toward colleagues; 3) ethical behavior.

The areas of concern included lack of: 1) knowledge in science and math; 2) inability to use community resources; 3) poor classroom control; and 4) lack of insights into the characteristics of appropriate behavior.

#### University of Iowa

P. R. Graff did a follow-up study in 1976 of graduates from the University of Iowa from 1970 through 1976. As reported by Graff (1976), it was found that the graduates were generally satisfied with their teaching program. One recommendation was to carefully screen applicants for admission to the program due to the limited number of teaching positions. The number of graduates responding was 927 out of the total population of 2,038. Another concern dealt with inadequate preparation in human relations skills.

The principals rated the graduates well prepared in subject matter and quite successful in handling the daily responsibilities of teachers.

#### University of Maine

R. J. Drummond did a follow-up study in 1977 at the University of Maine. As reported by Drummond (1977), 100 school superintendents were surveyed in Maine to evaluate the graduates of the teacher education programs at the University of Maine. He found that the majority of the

administrators viewed the graduates as well prepared. The lack of classroom management (discipline) was an area of concern.

#### Western Kentucky University

J. A. Carpenter did a study in 1974 of the teacher education graduates at Western Kentucky University. Graduates from 1970 through 1973 were studied. A random selection of graduates was used to select 500 graduate's names. Of these 500, 320 surveys were returned.

As reported by Carpenter (1974), the results indicated that seventy-seven percent of the students were satisfied with the pre-student teaching program. Only forty-seven percent were still in a classroom teaching position at the time of survey. A total of eighty-three percent were satisfied with the student teaching experience. One recommendation was to improve the services of the placement office.

Each of these studies reported common problems. At the initial stages, the list of graduates to be surveyed was difficult to obtain. The return of responses was of major concern due to the percentage needed to reach valid conclusions. The results revealed commonality in dealing with discipline and classroom control, course work, human relations, and obtaining employment. The geographical location of the teacher education program appeared not to be influential in considuring the nature of the problems. The

standard instrument used to collect the data was a survey. The sources of data and the development of the survey questionnaire were comparable.

### Summary

This chapter has reviewed the current literature related to the evaluation of teacher education program. The need for evaluation was addressed, as were models or plans for evaluation.

The literature on evaluation included similar plans for development. Recent studies in education such as those done by the Holmes Group, the Carnegie Task Force, and NCATE have caused the teaching profession to come under closer scrutiny. Educators need to analyze and evaluate the usefulness of the teacher education reform proposals.

Historically school evaluations were focused on the curriculum. Today, the emphasis has changed to issues concerned with merit pay, performance leadership, and teacher evaluation. These issues are more directly related to classroom instruction.

Evaluation is not a new measure. In the mid-1960's, numerous models were developed. Daniel Stufflebeam's CIPP Model dealt with a four step evaluation plan dealing with Context-Input-Process-and Product. The Goal Free Model by Scriven dealt with the effects and the needs of the effects. The Countenance Model used descriptive and judgment entries on a twelve celled matrix. The Northwest Regional

Educational Laboratory of Portland, Oregon published a set of guidelines to use in designing evaluation procedures. The University of Texas Research and Development Center for Teacher Education under the sponsorship of the National Institute of Education assembled a group of educators for the purpose of each describing their approach to evaluation. This information was used to create a model for evaluating teacher education.

Another model was developed by J.T. Dillon and Stanley S. Starkman. This evaluation model won AACTE's award for "Recognition Role of Demonstrated Practices" in 1979. The model was based on the theory that evaluation was two-fold. Evaluation needs to provide reliable information about a program and also meet the standards for the certifying and accrediting agency. A group of Canadian universities collaborated in developing an evaluation framework model called CETEP. This model has been used in numerous research papers and studies. Previous follow-up studies from other universities noted similar concerns in their findings. The lack of classroom control seemed to be the most common problem cited by the studies. The studies had common problems obtaining graduate's current addresses, receiving a sufficient number of returns, and finding suggestions specific enough to be useful.

These studies and models indicate common procedures in developing, implementing and evaluating the total evaluation

process. The guidelines indicated that the procedures must meet the needs of the institution involved. The findings will then provide valuable data for making proposed changes needed in contemporary teacher education programs.

Future directions in evaluation will reflect the same differences that continue to exist. There is a general agreement that such evaluations are valuable and necessary. There are numerous models available. As reported by Hord (1982),

In summary, the future of teacher education program evaluation cannot be focused in a single direction. Rather, it is essential that efforts be given to movement concurrently in several directions. It is apparent that, if program evaluation is to impact teacher preparation programs, it must be encouraged, supported and rewarded by multiple audiences. It is also apparent that this encouragement and support will not develop without active movement by those currently interested and involved in program evaluation. The next task at hand is for individuals to determine what directions they are willing to pursue. (p. 177)

The concept of evaluation is valuable and should be continual. The teaching profession is being held accountable for the levels of education achievement in elementary and secondary schools. Educators must be aware of all factors influencing these achievement levels. Teacher education must strive to provide the ultimate levels of achievement for tomorrow's leaders.



## CHAPTER 3

### Procedures

This chapter includes the procedures used to evaluate the William Penn College teacher education program. Prior studies of comparable efforts have been reviewed. This study is similar to those previous studies in that the graduates will be surveyed as to their perceptions of the achievement of the objectives of the program they completed.

#### Population Identification and Sample Selection

Graduate records were used to identify the names and addresses of all William Penn College teacher education students who graduated from May 1983 through August 1987. All students were identified as having successfully completed their program and were certified to teach in the State of Iowa. The number of graduates comprising the total population to be studied was 194.

Several steps were taken in identifying the sample population. A record of graduates is available from each of the following offices:

- 1) Placement and Career Development
- 2) College Relations/Alumni Office
- 3) Office of the Registrar
- 4) Director of Teacher Education

A comparison was made of the names from each of these sources and a complete and accurate list was compiled. The

addresses from the College Relations/Alumni Office were considered the most accurate and were used for the mailings. The final list included each graduate's name, date of graduation, major, and current address. The Alumni Office records are updated periodically, and therefore provided the most accurate and current source of information needed.

All graduates from the classes of 1983 through 1987 were surveyed in this study. The graduates were designated as having elementary and/or secondary teaching certification.

The rationale for using this population was based upon the results from two national surveys conducted by Ronald D. Adams and James R. Craig regarding the extent and nature of follow-up studies being conducted by colleges of education. As reported by Adams and Craig (1981),

Over 50 percent of the colleges are collecting data from their graduates within the first year of graduation and approximately 26 percent are obtaining follow-up data within four years of graduation. (p. 21)

#### Instrument Development

The objective survey items were identified in previous NCATE evaluations conducted by William Penn College. The items were related to the objectives of the teacher education program (see Appendix A). The Prine study conducted at Drake University in 1975 and a program assessment developed by Dr. Susan Kovar for an NCATE visit at Drake University in 1987 were used as models from which to design the William Penn College survey. The Chairperson of

the William Penn College Department of Education reviewed each of the three previous evaluations. The items included in the survey instrument to evaluate the extent to which the William Penn teacher education program objectives had been attained were designed by the department chair and the researcher. The questions based upon the objectives of the teacher education program were then reviewed by the faculty of the teacher education program, the researcher, and her doctoral committee. The survey was first administered to a select group of education students and faculty, who critiqued the survey as to format, language, and content. Changes were made as suggested and a pilot test was run. The pilot survey was given to a group of 30 teachers on June 1, 1988. A second survey was given to the same group on July 12, 1988. The responses were compared to assess the reliability of the survey.

#### Data Collection

On May 1, 1988, a postcard was mailed to the graduates to check the accuracy of current mailing addresses. Postcards returned indicated incorrect names and/or addresses. These individuals were contacted to correct the mailing error. The correct addresses were then used for the survey packets. Each of the graduates was sent a packet of materials on June 7, 1988. The packet (See Appendix B) contained:

- 1) A cover letter to the graduate
- 2) A survey questionnaire on which the graduates evaluate the teacher education program
- 3) A cover letter to the supervisor of the graduate
- 4) A questionnaire on which the supervisor evaluate the performance of the graduate
- 5) A stamped return envelope for both the graduate and the graduate's supervisor

Each graduate's identity was needed for verification of the receipt of completed surveys; therefore, each graduate was assigned a random survey identification number. A follow-up second mailing was sent to those subjects who did not return the survey by July 7, 1988. Graduates received a reminder for their supervisors, if the supervisor's survey had not been returned. The survey identification number allowed a daily record to be kept on the number of graduates responding. A third reminder consisted of a phone call which was made during the week of July 18, requesting the completion and return of the questionnaire.

#### Data Analysis

Using the total number of surveys returned, a format for data entry was designed. The Statistical Package for Social Science, SPSSX, was examined to determine the best statistical procedures available to test the hypotheses. A statistical analysis using a Multivariate Analysis of Variance (MANOVA) was used to test Hypotheses 1 through 7.

The null hypotheses of this study were:

1. There is no significant difference between the elementary and secondary majors in their perceived achievement of program objectives.
2. There is no significant difference between the elementary graduates and their supervisors in their perceived achievement of program objectives.
3. There is no significant difference between the secondary graduates and their supervisors in their perceived achievement of program objectives.
4. There is no significant difference between the elementary and secondary graduates in their perceived view of program objectives related to job importance.
5. There is no significant difference between the elementary graduates and their supervisors in their perceived view of program objectives related to job importance.
6. There is no significant difference between the secondary graduates and their supervisors in their perceived view of program objectives related to job importance.
7. There is no significant difference between the graduates' perceived achievement of program objectives based upon the year of graduation, 1983-84-85-86-87.

#### Limitations

This research was conducted as a follow-up study. The study had a basic limitation in locating the graduates from the teacher education program from 1983 through August 1987.

Only the surveys returned by the subjects with teaching experience were analyzed for statistical and non-statistical purpose.

### Significance of the Proposed Research

William Penn College was following the recommendations by NCATE from the visit of March, 1985 that a follow-up study of graduates from 1983 through 1987 be completed. The study solicited feedback from the graduates about the effectiveness of their pre-service teacher education instruction.

The results of the study created an awareness of how the teacher education program was perceived by the graduates and their supervisors for the college faculty, administrators, pre-service, and in-service teachers involved with the William Penn College teacher education program. The data will be used in preparation for the next NCATE visit in 1992.

### Summary

Included in this chapter has been a discussion of the study, comprising: procedures, population identification and sample selection, instrument development, data collection, data analysis, limitations, and the significance of this research. It is assumed in this study that the graduates have given their consent to participate by returning the survey, satisfying the Human Subject's Research requirement that permission must be granted before participating, as required by Drake University.

## CHAPTER 4

### Analysis Of Data

This chapter includes an analysis of the data provided by the 194 respondents in this study. The data presentation was divided into seven sections representing the seven hypotheses stated in the study.

Each hypotheses was tested using MANOVA tests and a nonparametric Kruskal-Wallis test. The Kruskal-Wallis test is a rank test that is robust distributionally and is fairly resistant to outliers.

Since outliers were found in most of the samples obtained in this study, this test was considered likely to be more sensitive than MANOVA to real differences or effects.

The following definitions classify the interpretations of the tables and headings:

Total: include the 194 survey respondents, including all elementary, secondary, and supervisors of each level.

Elementary: respondents who completed the teacher education program in elementary education.

Secondary: respondents who completed the teacher education program in secondary education.

Supervisors: respondents who evaluated the graduates now teaching at the elementary or secondary level.

Table 1

Characteristics of the Graduates from the Teacher Education Program from William Penn College, 1983-1987

Year of Graduation	Education Elementary	Major Secondary	Total
1983	12	38	50
1984	7	29	36
1985	12	18	30
1986	8	32	40
1987	16	22	38
total	55	139	194

Table 2

Characteristics of the Supervisors Responding to the Teacher Education Program Evaluation from William Penn College, 1983-1987

Major Area of Supervision	Number	Percentage
Elementary Supervision	13	25.49
Secondary Supervision	38	74.51
Total	51	100.00

Table 3

Characteristics of the Respondent's of Return from Graduates' Survey

Mailing & Phone Follow-Up	Graduates Responses	Percentage
June 7	89	45.87
July 7	112	57.73
July 18	143	73.71



Table 4  
 Characteristics of the Graduates Responding to the Teacher  
 Education Program Evaluation from William Penn College, 1983-  
 1987.

Year of Graduation	Respondents		Total
	Elementary	Secondary	
1983	7	28	35
1984	6	24	30
1985	8	13	21
1986	4	23	27
1987	10	20	30
total	35	108	143

Percentage of total return for Elementary Responses twenty-four percent.

Percentage of Total return for secondary Responses seventy-six percent.

#### Hypothesis 1

There is no significant difference between the elementary and secondary majors in their perceived achievement of program objectives.

The results from the elementary and secondary surveys with significance at the .05 level for the program objectives as presented in Appendix A are shown in Table 5. P-value are included to .10, but .05 was used to determine acceptance or rejection for all hypotheses.

TABLE 5

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Program Objectives Having Significance at .05\* Level Between Elementary and Secondary Graduates

Manova Results	Program Objectives	1	2	3	4	5	6	7	8	9	10
Univariate Homogeneity of Variance Test	C <sup>a</sup>	--	--	--	--	--	--	--	--	--	--
	B <sup>b</sup>	--	--	--	--	--	--	--	--	--	--
Multivariate Test for Homogeneity of Dispersion Matrices (Box's M)	F <sup>c</sup>	--	.042	--	.000	--	--	--	--	--	--
	Chi <sup>d</sup>	--	.042	--	.000	--	--	--	--	--	--
Bartlett's Test of Sphericity		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
Multivariate Test for Effect of Major (Wilk's Lambda)		--	--	--	--	.026	--	--	--	--	--
Univariate F Test for Effect of Major		--	.072*	--	--	.090*	--	--	--	--	--
Nonparametric Test (Kruskal-Wallis)		--	.026	--	--	.030	--	--	--	--	--

Note: Entries consist of P-values for each test and program objective as given in the body of the table.

Note: Multivariate vector includes both Program Objective and Job Importance measures; however, only Program evaluation measures are used to test the hypothesis.

Note: Dash (--) indicates non-significance of P-value larger than .10.

- a Cochran's C Test
- b Bartlett-Box's F Test
- c Approximate F
- d Chi-square

Note: \* indicate marginal significance of P-values > .05 but < .10. These values were not used to determine acceptance or rejection of hypothesis.

Table 5 indicated significance ( $P < .05$ ) on dispersion matrices for majors on program objectives 2 and 4, using Box's M test. Bartlett's test of sphericity showed significance ( $P < .05$ ) for all program objectives. The Bartlett's test is highly sensitive to departures from multivariate normality. Therefore all ten program objectives may not have true significance as indicated by Bartlett's test, due to non-normality of groups. Wilk's lambda <sup>1</sup> yielded significant differences for majors ( $P < .05$ ) on program objective 4. The box plots for program objective 4 indicate that the two groups had the same median (see Appendix F). The spreads are difference and extreme outliers may distort the significance level.

The univariate F tests shows a marginal significance for program objective 2 ( $P = .072$ ) and program objective 5 ( $P = .090$ ). The univariate tests indicated where the difference in groups might exist. Program objective 5 dealt with the K-12 techniques in Music or Physical Education. This objective would be stressed within an elementary major more than a secondary major unless the secondary major was Music or Physical Education. Therefore the statistical significance would be expected. Program objective 2 dealt with concepts of learning theories. The box plots for program objective 2 and 5 indicate a similar median. However

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<sup>1</sup> The multivariate test includes data on program objectives as well as job importance. Thus, this test will address both Hypotheses 1 and 4 simultaneously.

there are several extreme outliers for the secondary majors (see Appendix F).

Due to the differences in group dispersion matrices on program objectives 2 and 4 and the prevalence of outliers in nearly all of the box plots, the MANOVA and ANOVA results may be too conservative. Nonparametric tests are less sensitive to departures from normality. The Kruskal-Wallis test is a nonparametric one-way analysis of variance. Program objectives 2 and 5 yielded significance ( $P < .05$ ) using this nonparametric test. Program objective 2 dealt with concepts of learning theories, human development, and motivation. Program objective 5 dealt with K-12 techniques in Music and Physical Education.

Program objective 2 did have two residuals which exceeded 3.0 in absolute value, whereas program 5 had none (see Appendix H). However, the box plots indicated a larger number of outliers. Thus, the Kruskal-Wallis test results were considered to be more valid than those using MANOVA or ANOVA. Hypothesis 1 was rejected at the .05 level only for program objectives 2 and 5.

TABLE 6

Means and Standard Deviation of Survey Responses Relating to Hypothesis 1 on Program Objective Differences Between Elementary and Secondary Majors (35 Elementary, 108 Secondary, 143 Total)

Program Objective	Major	Mean	Standard Deviation
1	Elementary Major	1.914	.756
	Secondary Major	1.903	.733
	Entire Sample	1.906	.736
2	Elementary Major	1.542	.792
	Secondary Major	1.830	.783
	Entire Sample	1.872	.799
3	Elementary Major	1.795	.850
	Secondary Major	1.897	.822
	Entire Sample	1.759	.821
4	Elementary Major	1.528	.954
	Secondary Major	1.532	.821
	Entire Sample	1.531	.852
5	Elementary Major	2.128	1.171
	Secondary Major	1.736	1.187
	Entire Sample	1.832	1.191
6	Elementary Major	1.774	.768
	Secondary Major	1.853	.783
	Entire Sample	1.834	.778
7	Elementary Major	1.642	.903
	Secondary Major	1.676	.862
	Entire Sample	1.668	.869
8	Elementary Major	1.886	1.105
	Secondary Major	1.815	1.078
	Entire Sample	1.832	1.081
9	Elementary Major	1.714	.771
	Secondary Major	1.765	.844
	Entire Major	1.752	.825
10	Elementary Major	1.685	1.071
	Secondary Major	1.652	.987
	Entire Major	1.661	1.004

The means and standard deviations of survey responses for Hypothesis 1 on program differences between the elementary and secondary graduates are presented in Table 5. The differences in means between the elementary and secondary majors exceeds 0.1 only on program objectives 2 and 5. This corresponds to the results using the Kruskal-Wallis test. The objectives found to be significant in Table 5 also have the largest spread between group means in Table 6.

There is no significant difference between the elementary graduates and their supervisors in their perceived achievement of program objectives.

The statistical test results from the elementary graduates and their supervisors' surveys for the ten program objectives are presented in Table 7.

TABLE 7

Program Objectives Having Significance at the .05\* Level Between Elementary Graduates and Their Supervisors

Manova Results	Program Objectives	1	2	3	4	5	6	7	8	9	10
Univariate Homogeneity of Variance Test	C <sup>a</sup>	.000	.000	.000	.000	.036	.001	.000	--	.001	.007
	B <sup>b</sup>	.001	.000	.000	.001	.084*	.009	.000	--	.008	.030
Multivariate Test for Homogeneity of	F <sup>c</sup>	.000	.000	.000	--	.046	.000	.000	.000	.000	.016
	Chi <sup>d</sup>	.000	.000	.000	--	.046	.000	.000	.000	.000	.016
Bartlett's Test of Sphericity		.000	--	.000	--	.000	--	.000	.015	.016	.000
Multivariate Test for Effect of Group (Wilk's Lambda)		.014	--	.026	--	--	--	--	--	--	--
Univariate F Test For Effect of Group		.073*	--	.007	--	.030	.066*	.046	--	.028	--
Nonparametric Test (Kruskal-Wallis)		.040	--	.001	--	.022	--	.022	.069*	.009	.096*

Note: Entries consist of P-values for each test and program objective as given in the body of the table.

Note: Multivariate vector includes both Program Objective and Job Importance measures; however, only Program evaluation measures are used to test the hypothesis.

Note: Dash (--) indicates non-significance of P-value larger than .10.

a Cochran's C test

b Bartlett-Box's F Test

c Approximate F

d Chi-square

Note: \* indicates marginal significance of P-values > .05 but < .10. These values were not used to determine acceptance or rejection of hypothesis.

Table 7 shows significance ( $P < .05$ ) on Hypothesis 2 for the univariate homogeneity of variance tests on all program objectives except numbers 5 and 8. Cochran's and Bartlett-Box's tests yielded significance ( $P < .10$ ) on all program objectives except number 8. The multivariate test for homogeneity of dispersion matrices (Box's M) yielded significance ( $P < .05$ ) using the approximate F and chi-square on all program objectives except 4.

Bartlett's test of sphericity produced significance ( $P < .05$ ) on all program objectives except number 2, 4, and 6. The multivariate test for effect of group Wilk's lambda yielded significance ( $P < .05$ ) on program objectives 1 and 3. The univariate F test for effect of group produced significance ( $P < .05$ ) on program objectives 1, 3, 5, 7, and 9. Marginal significance ( $P = .066$ ) was found on program objective 6.

MANOVA assumes that the dispersion matrices are equal across groups. This was not the case with this study. Therefore, the MANOVA may not be appropriate for this hypothesis.

The nonparametric test Kruskal-Wallis is relatively insensitive to departures from normality. The program objectives which yielded statistical significance ( $P < .05$ ) were 1, 3, 5, 7, and 9. Marginal significance was found on program objective 8 ( $P = .069$ ) and 10 ( $P = .096$ ).

Program objectives 1 and 3 appear to be repeatedly



significant with MANOVA and nonparametric tests. The box plots are were considerably different for program objectives 1 and 3 (see Appendix G). Hypothesis 2 was rejected at the .05 level for program objectives 1, 3, 5, 7, and 9.

TABLE 8

Means and Standard Deviation for Hypothesis 2 on Program Objectives Between Elementary Graduates and Their Supervisors (13 Supervisors, 35 Graduates, 48 Total)

Program Objective	Group	Mean	Standard Deviation
1	Elementary Supervisors	1.516	.306
	Elementary Graduates	1.914	.756
	Entire Sample	1.807	.685
2	Elementary Supervisors	1.179	.258
	Elementary Graduates	1.542	.792
	Entire Sample	1.444	.705
3	Elementary Supervisors	1.115	.239
	Elementary Graduates	1.795	.850
	Entire Sample	1.611	.794
4	Elementary Supervisors	1.192	.384
	Elementary Graduates	1.528	.954
	Entire Sample	1.437	.848
5	Elementary Supervisors	1.346	.746
	Elementary Graduates	2.128	1.171
	Entire Sample	1.917	1.122
6	Elementary Supervisors	1.353	.375
	Elementary Graduates	1.775	.768
	Entire Sample	1.660	.706
7	Elementary Supervisors	1.115	.299
	Elementary Graduates	1.642	.903
	Entire Sample	1.500	.818
8	Elementary Supervisors	1.385	.870
	Elementary Graduates	1.886	1.105
	Entire Sample	1.750	1.062
9	Elementary Supervisors	1.204	.373
	Elementary Graduates	1.714	.771
	Entire Sample	1.576	.720
10	Elementary Supervisors	1.231	.599
	Elementary Graduates	1.685	1.071
	Entire Sample	1.562	.982

Table 8 revealed a rather large spread between the elementary supervisors and the elementary graduates on means and standard deviations for hypothesis 2. The elementary graduates had standard deviations that were roughly double those of their supervisors.

ANOVA assumes that the standard deviations were homogeneous across groups. This was not found to be true for Hypothesis 2. The objectives found to be significant in Table 7 using the Kruskal-Wallis test have the largest differences in group means in Table 8.

There is no significant difference between the secondary graduates and their supervisors in their perceived achievement of program objectives.

The results from the secondary graduates and their supervisors' surveys show significance at the .05\* level for the following program objectives as presented in Table 9.

TABLE 9

Program Objectives Having Significance at the .05\* Level Between Secondary Graduates and Their Supervisors

Manova Results	Program Objectives	1	2	3	4	5	6	7	8	9	10
Univariate Homogeneity of Variance Test	C <sup>a</sup>	--	--	--	--	--	--	--	--	--	--
	B <sup>b</sup>	--	--	--	--	--	--	--	--	--	--
Multivariate Test for Homogeneity of Dispersion Matrices (Box's M)	F <sup>c</sup>	.000	--	.000	--	.000	.005	.000	.004	--	.002
	Chi <sup>d</sup>	.000	--	.000	--	.000	.005	.000	.004	--	.002
Bartlett's Test of Sphericity		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
Multivariate Test for Effect of Group (Wilks' Lambda)		--	--	.061*	--	--	--	--	--	--	--
Univariate F Test for Effect of Group		--	--	.019	--	--	--	--	--	--	--
Nonparametric Test (Kruskal-Wallis)		--	.098*	.008	--	--	--	--	--	--	--

Note: Entries consist of P-values for each test and program objective as given in the body of the table.

Note: Multivariate vector includes both Program Objectives and Job Importance objectives; however, only Program Objective evaluation measures are used to test the hypothesis.

Note: Dash (--) indicates non-significance of P-value larger than .10.

a Cochran's C Test

c Approximate F

b Bartlett-Box's F test

d Chi-square

Note: \* indicates marginal significance of P-values > .05 but < .10. These values were not used to determine acceptance or rejection of hypothesis.

Table 9 shows nonsignificance ( $P > .05$ ) on hypothesis 3 for both univariate homogeneity of variance tests. The multivariate tests for homogeneity of dispersion matrices (Box's M) resulted in nonsignificance ( $P > .05$ ) for program objectives 2, 4, and 9.

Bartlett's test of sphericity resulted in significance ( $P < .05$ ) for all ten program objectives. This test is highly sensitive to departures from multivariate normality. Therefore, the levels of significant ( $P < .05$ ) may not be accurate, due to the non-normality of groups in this study.

Wilks' Lambda, which tests for the effect of group, was marginally significant ( $P = .061$ ) using the multivariate test for program objective 3. The groups were significantly different ( $P < .05$ ) using the univariate F test.

The nonparametric Kruskal-Wallis test produced significance ( $P < .05$ ) for program objective number 3 and marginal significance ( $P = .09$ ) on program objectives 2. The secondary graduates and their supervisors were significantly different ( $P < .05$ ) in their responses to program objective 3, dealing with Growth and Development of Children and Youth. According to the box plots, the medians are different and there are several extreme outliers that may distort the results (see Appendix H). Thus, the Kruskal-Wallis test was considered more appropriate than MANOVA or ANOVA for testing this hypothesis. Hypothesis 3 was rejected at the .05 level only for program objective 3.

TABLE 10

Means and Standard Deviations for Hypothesis 3 on Program Objectives Between Secondary Graduates and their Supervisors (38 Supervisors, 108 Graduates, 146 Total)

Program Objectives	Group	Mean	Standard Deviation
1	Secondary Supervisors	1.835	.853
	Secondary Graduates	1.903	.733
	Entire Sample	1.886	.763
2	Secondary Supervisors	1.640	.864
	Secondary Graduates	1.830	.822
	Entire Sample	1.780	.834
3	Secondary Supervisors	1.557	.685
	Secondary Graduates	1.897	.783
	Entire Sample	1.808	.772
4	Secondary Supervisors	1.658	.830
	Secondary Graduates	1.532	.821
	Entire Sample	1.565	.822
5	Secondary Supervisors	1.671	1.098
	Secondary Graduates	1.736	1.187
	Entire Sample	1.719	1.161
6	Secondary Supervisors	1.645	.669
	Secondary Graduates	1.854	.783
	Entire Sample	1.800	.759
7	Secondary Supervisors	1.500	.780
	Secondary Graduates	1.676	.862
	Entire Sample	1.630	.842
8	Secondary Supervisors	1.842	1.103
	Secondary Graduates	1.815	1.078
	Entire Sample	1.822	1.081
9	Secondary Supervisors	1.666	.793
	Secondary Graduates	1.765	.844
	Entire Sample	1.739	.830
10	Secondary Supervisors	1.605	.901
	Secondary Graduates	1.652	.987
	Entire Sample	1.640	.962

Table 10 represents the group means and standard deviations of survey responses for Hypothesis 3. Program objectives 2, 3, 6, and 7 have larger spreads between the group means and the group standard deviations. The other program objectives were more similar on means and standard deviations.

There is no significant difference between the elementary and secondary graduates in their perceived view of program objectives related to job importance.

The results from the elementary and secondary graduates' surveys regarding their perceived view of program objectives related to job importance is presented in Table 11.

TABLE 11  
Program Objectives Related to Job Importance Having Significance at the .05\* Level Between Elementary and Secondary Graduates

Manova Results	Job Importance	1	2	3	4	5	6	7	8	9	10
Univariate Homogeneity of Variance Test	C <sup>a</sup>	--	--	--	--	--	--	.075*	--	--	--
	B <sup>b</sup>	--	--	--	--	--	--	--	--	--	--
Multivariate Test for Homogeneity of Dispersion Matrices (Box's M)	F <sup>c</sup>	--	--	--	.000	--	--	--	--	--	--
	Chi <sup>d</sup>	--	--	--	.000	--	--	--	--	--	--
Bartlett's Test of Sphericity		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
Multivariate Test for Effect of Major (Wilks' Lambda)		--	--	--	--	--	--	--	--	--	--
Univariate F Test for Effect of Major		--	--	--	--	.008	--	--	--	--	--
Nonparametric Test (Kruskal-Wallis)		--	.027	.017	.092*	.007	.089*	--	--	--	--

Note: Entries consist of P-values for each test and job importance objective as given in the body of the table.

Note: Multivariate vector includes both program objectives and job importance objectives; however, only job importance objective evaluation measures are used to test the hypothesis.

Note: Dash (--) indicates non-significance of P-value larger than .10

a Cochran's C Test

c Approximate F

b Bartlett-Box's F Test

d Chi-square

Note: \* indicates marginal significance of P-values > .05 but < .10. These values were not used to determine acceptance or rejection of hypothesis.



Table 11 represents the levels of significance ( $P < .05$ ) for Hypothesis 4 obtained from the MANOVA and nonparametric tests. The univariate homogeneity of variance tests yielded nonsignificance ( $P > .05$ ) on the Cochran's C test and Bartlett-Box's F test except for marginal significance ( $P = .075$ ) on program objective 7 with Cochran's C test. the multivariate test for homogeneity of dispersion matrices (Box's M) produced nonsignificance ( $P > .05$ ) on all program objectives except number 4.

Bartlett's test of sphericity produced significance ( $P < .05$ ) for all ten program objectives, as related to job importance. This test is highly sensitive to departures from multivariate normality. Therefore, the significance ( $P < .05$ ) may not be true, due to the non-normality of the groups involved.

The multivariate Wilks Lambda test for effect of major Wilk's lambda produced nonsignificance ( $P > .05$ ) for all program objectives as related to job importance. The univariate F test for effect of major produced significance ( $P < .05$ ) for program objective number 5. The nonparametric Kruskal-Wallis test produced significance ( $P < .05$ ) for program objectives 2, 3, and 5 with marginal significance for program objectives 4 ( $P = .092$ ) and 6 ( $P = .089$ ).

The univariate F results produced nonsignificance ( $P > .05$ ) for all program objectives except number 5. The Box's M test yielded significance ( $P < .05$ ) on program

objective number 5. Program objective 5 dealt with K-12 techniques in Music and Physical Education. According to the box plots, each group had a different median for objectives 2, 3, and 5 (see Appendix F). There were extreme outliers present in each of these boxplots. Hypothesis 4 was rejected at the .05 level only for job importance objectives 2, 3, and 5.

TABLE 12

Means and Standard Deviations for Hypothesis 4 on Program Objectives Relating to Job Importance Between the Elementary and Secondary Graduates (35 Elementary, 108 Secondary, 143 Total)

Job Importance	Group	Mean	Standard Deviation
1	Elementary Graduates	2.020	.863
	Secondary Graduates	2.140	.841
	Entire Sample	2.111	.845
2	Elementary Graduates	1.428	.865
	Secondary Graduates	1.601	.726
	Entire Sample	1.559	.763
3	Elementary Graduates	1.433	.832
	Secondary Graduates	1.574	.773
	Entire Sample	1.539	.787
4	Elementary Graduates	1.371	.751
	Secondary Graduates	1.592	.857
	Entire Sample	1.538	.835
5	Elementary Graduates	2.371	1.395
	Secondary Graduates	1.727	1.183
	Entire Sample	1.884	1.263
6	Elementary Graduates	1.505	.866
	Secondary Graduates	1.659	.789
	Entire Sample	1.621	.808
7	Elementary Graduates	1.500	1.077
	Secondary Graduates	1.444	.871
	Entire Sample	1.458	.922
8	Elementary Graduates	1.543	1.067
	Secondary Graduates	1.741	1.071
	Entire Sample	1.692	1.070
9	Elementary Graduates	1.476	.841
	Secondary Graduates	1.558	.804
	Entire Sample	1.538	.811
10	Elementary Graduates	1.614	.978
	Secondary Graduates	1.615	.949
	Entire Sample	1.615	.952

Table 12 represents the group means and standard deviations for responses on Hypothesis 4. There was a large spread between groups means for program objective 5. Program objective 5 dealt with the K-12 techniques in Music and Physical Education.

There is no significant difference between the elementary graduates and their supervisors in their perceived view of program objectives related to job importance.

The result from the elementary graduates' and their supervisors' surveys relating to their perceived view of program objectives related to job importance are presented in Table 13.

TABLE 13  
Program Objectives Relating to Job Importance as Perceived by Elementary Graduates and Their Supervisors

Manova Results	Job Importance	1	2	3	4	5	6	7	8	9	10
Univariate Homogeneity of Variance Test	C <sup>a</sup>	.000	.000	.000	.002	--	.000	.000	.000	.000	.022
	B <sup>b</sup>	.000	.000	.000	.014	--	.000	.000	.000	.000	.062
Multivariate Test for Homogeneity of Dispersion Matrices (Box's M)	F <sup>c</sup>	.000	.000	.000	--	.046	.000	.000	.000	.000	.016
	Chi <sup>d</sup>	.000	.000	.000	--	.046	.000	.000	.000	.000	.016
Bartlett's Test of Sphericity		.000	--	.000	--	.000	--	.000	.015	.016	.000
Multivariate Test for Effect of Group (Wilks' Lambda)		.014	--	.026	--	--	--	--	--	--	--
Univariate F Test for Effect of Group		.004	.083*	.069*	--	.094*	--	--	--	.099*	--
Nonparametric Test (Kruskal-Wallis)		.001	.012	.005	--	.051*	.047	.033	--	.023	--

Note: Entries consist of P-values for each test and job importance objective as given in the body of the table.

Note: Multivariate vector includes both program objectives and job importance objectives; however, only job importance objective evaluation measures are used to test the hypothesis.

Note: Dash (--) indicates non-significance of P-value larger than .10.

a Cochran's C Test

c Approximate F

b Bartlett-Box's F Test

d Chi-square

Note: \* indicates marginal significance of P-values > .05 but < .10. These values were not used to determine acceptance or rejection of hypothesis.

Table 13 includes the results for Hypothesis 5 based on MANOVA and nonparametric tests. The univariate homogeneity of variance test produced significance ( $P < .05$ ) for Cochran's C test on all program objectives except number 5. Bartlett-Box's F test produced significance ( $P < .05$ ) on all program objectives except number 5, with marginal significance ( $P = .06$ ) on number 10. The multivariate test for homogeneity of dispersion matrices (Box's M) produced significance ( $P < .05$ ) on all program objectives except number 4.

Bartlett's test of sphericity produced statistical significance ( $P < .05$ ) for all program objectives except number 2, 4, and 6. Bartlett's test is highly sensitive to departures from multivariate normality. The scores for the two groups are not normally distributed (see Appendix G); therefore, the results from the test may not be accurate. The multivariate test for effect of group Wilks' lambda produced significance ( $P < .05$ ) for program objectives 1 and 3. The univariate F test for effect of group produced significance ( $P < .05$ ) for program objective 1, With marginal significance for 2 ( $P = .083$ ), 3 ( $P = .069$ ), 5 ( $P = .094$ ), and 9 ( $P = .099$ ).

The nonparametric test Kruskal-Wallis produced statistical significance ( $P < .05$ ) for program objectives 1, 2, 3, 6, 7, and 9 with marginal significance ( $P = .051$ ) for program objective 5. The box plots show the spread in medians between groups (see Appendix G). The program

objectives that had the extreme outliers also had the same case numbers with standardized residuals of 3.0 or more in absolute value. Hypothesis 5 was rejected at the .05 level for job importance objectives 1, 2, 3, 6, 7, and 9.

TABLE 14

Means and Standard Deviations for Hypothesis 5 on Program Objectives Relating to Job Importance as Perceived by the Elementary Graduates and Their Supervisors (13 Supervisors, 35 Graduates, 48 Total)

Job Importance	Group	Mean	Standard Deviation
1	Elementary Supervisors	1.264	.296
	Elementary Graduates	2.020	.863
	Entire Sample	1.815	.822
2	Elementary Supervisors	1.000	.000
	Elementary Graduates	1.428	.865
	Entire Sample	1.312	.760
3	Elementary Supervisors	1.000	.000
	Elementary Graduates	1.433	.832
	Entire Sample	1.316	.734
4	Elementary Supervisors	1.192	.384
	Elementary Graduates	1.371	.751
	Entire Sample	1.323	.672
5	Elementary Supervisors	1.615	1.260
	Elementary Graduates	2.371	1.395
	Entire Sample	2.166	1.388
6	Elementary Supervisors	1.107	.175
	Elementary Graduates	1.505	.866
	Entire Sample	1.398	.763
7	Elementary Supervisors	1.000	.000
	Elementary Graduates	1.500	1.077
	Entire Sample	1.364	.944
8	Elementary Supervisors	1.077	.277
	Elementary Graduates	1.543	1.067
	Entire Sample	1.417	.942
9	Elementary Supervisors	1.076	.199
	Elementary Graduates	1.476	.841
	Entire Sample	1.368	.744
10	Elementary Supervisors	1.231	.599
	Elementary Graduates	1.614	.978
	Entire Sample	1.510	.902



Table 14 includes the group means and standard deviations for Hypothesis 5. The means for the elementary supervisors and elementary graduates vary greatly for each program objective. The standard deviations also have a wide spread within each program objective. The program objectives that were significant ( $P < .05$ ) in Table 13 were found to have the largest spread in group means and standard deviations in Table 14.

There is no significant difference between the secondary graduates and their supervisors in their perceived view of program objectives related to job importance.

The results of the secondary graduates and their supervisors' surveys relating to their perceived view of program objectives relating to job importance are presented in Table 15.

TABLE 15

Program Objectives Relating to Job Importance as Perceived by Secondary Graduates and Their Supervisors

Manova Results	Job Importance	1	2	3	4	5	6	7	8	9	10
Univariate Homogeneity of Variance Test	C <sup>a</sup>	--	--	--	.085*	--	--	.053*	--	--	.043
	B <sup>b</sup>	--	--	--	--	--	--	--	--	--	.089*
Multivariate Test for Homogeneity of Dispersion Matrices (Box's M)	F <sup>c</sup>	.000	--	.000	--	.000	.005	.000	.004	--	.002
	Chi <sup>d</sup>	.000	--	.000	--	.000	.005	.000	.004	--	.002
Bartlett's Test of Sphericity		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
Multivariate Test for Effect of Group (Wilks' Lambda)		--	--	.061*	--	--	--	--	--	--	--
Univariate F Test for Effect of Group		.073*	--	--	--	--	--	--	--	--	--
Nonparametric Test (Kruskal-Wallis)		.006	.059*	.041	--	--	.095*	--	--	--	--

Note: Entries consist of P-values for each test and job importance objectives as given in the body of the table.

Note: Multivariate vector includes both program objectives and job importance objective evaluation measures are used to test the hypothesis.

Note: Dash (--) indicates non-significance of P-value larger than .10.

a Cochran's C Test

c Approximate F

b Bartlett-Box's F Test

d Chi-square

Note: \* indicates marginal significance of P-values > .05 but < .10. These values were not used to determine acceptance or rejection of hypothesis.

The results for hypothesis 6, using MANOVA and nonparametric tests are presented in Table 15. The univariate homogeneity of variance tests produced significance ( $P < .05$ ) for program objective 10 with Cochran's C test producing marginal significance for numbers 4 ( $P = .085$ ) and 7 ( $P = .053$ ). Bartlett-Box's F test produced marginal significance on program objective number 10 ( $P = .089$ ). The multivariate test for homogeneity of dispersion matrices (Box's M) yielded significance ( $P < .05$ ) for program objectives 1, 3, 5, 6, 7, 8, and 10.

Bartlett's test of sphericity produced significance ( $P < .05$ ) for all program objectives. Since the Bartlett's test is highly sensitive to departures from normality, the significance probability may not be accurate.

The multivariate test for effect of group Wilks' lambda produced marginal statistical significance ( $P = .061$ ) for program objective 3. Program objective 3 dealt with growth and development of children and youth. The univariate F test for effect of group produced marginal significance for program objective 1 ( $P = .073$ ).

The nonparametric Kruskal-Wallis test produced significance for program objectives 1 and 3 ( $P < .05$ ) with marginal significance on 2 ( $P = .059$ ) and 6 ( $P = .095$ ). The box plots show medians that are the same for program objectives 4, 5, 7, 8, and 10; slightly different for number 6; and different for numbers 1, 2, 3, and 9 (see Appendix H).

Extreme outliers are present for both groups on each program objectives. Program objective 3 also had six case numbers with standardized residuals of 3.0 or more in absolute value (see Appendix J). Hypothesis 6 was rejected at the .05 level only for job importance objective 1 and 3.

TABLE 16

Means and Standard Deviations for Hypothesis 6 on Program Objectives Relating to Job Importance as Reported by Secondary Graduates and Their Supervisors (38 Supervisors, 108 Graduates, 146 Total)

Job Importance	Group	Mean	Standard Deviation
1	Secondary Supervisors	1.842	.962
	Secondary Graduates	2.140	.841
	Entire Sample	2.063	.880
2	Secondary Supervisors	1.473	.840
	Secondary Graduates	1.601	.726
	Entire Sample	1.568	.757
3	Secondary Supervisors	1.416	.736
	Secondary Graduates	1.574	.773
	Entire Sample	1.533	.764
4	Secondary Supervisors	1.736	1.050
	Secondary Graduates	1.592	.857
	Entire Sample	1.630	.910
5	Secondary Supervisors	1.565	1.053
	Secondary Graduates	1.727	1.183
	Entire Sample	1.685	1.149
6	Secondary Supervisors	1.452	.674
	Secondary Graduates	1.659	.789
	Entire Sample	1.605	.764
7	Secondary Supervisors	1.316	.691
	Secondary Graduates	1.444	.871
	Entire Sample	1.410	.828
8	Secondary Supervisors	1.658	.994
	Secondary Graduates	1.741	1.071
	Entire Sample	1.719	1.049
9	Secondary Supervisors	1.508	.826
	Secondary Graduates	1.558	.804
	Entire Sample	1.545	.807
10	Secondary Supervisors	1.434	.746
	Secondary Graduates	1.615	.949
	Entire Sample	1.568	.901

The group means and standard deviations for responses on Hypothesis 6 are shown in Table 16. There is a moderate spread between the groups, secondary supervisors and secondary graduates, on group means and standard deviations for all program objectives except number 9. Program objective number 9 dealt with the concept of professionalism.

There is no significant difference between the graduates' perceived achievement of program objectives based upon the year of graduation, 1983-84-85-86-87.

The results of the graduates' surveys on their perceived achievement of program objectives based upon the year of graduation are presented in Table 17.

TABLE 17  
Program Objectives Relating to Job Importance Based upon Years of Graduation, 1983-84-85-86-87

Manova Results	Program Objectives	1	2	3	4	5	6	7	8	9	10
Univariate Homogeneity of Variance Test	C <sup>a</sup>	.100*	.035	.038	.009	--	--	.025	--	.053*	.019
	B <sup>b</sup>	.021	.016	.001	.011	.002	--	.001	.002	.009	.006
Multivariate Test for Homogeneity of Dispersion Matrices (Box's M)	F <sup>c</sup>	.032	.000	.000	.001	.029	.001	.000	.001	.000	.000
	Chi <sup>d</sup>	.032	.000	.000	.001	.029	.001	.000	.001	.000	.000
Bartlett's Test of Sphericity		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
Multivariate Test for Effect of Group (Wilks' Lambda)		--	--	.033	.090*	--	--	--	--	--	--
Univariate F Test for Effect of Group		--	--	.005	--	.060*	--	--	.078*	--	.074*
Nonparametric Test Results (Kruskal-Wallis)		---	--	.028	--	--	--	--	--	--	--

Note: Entries consist of P-values for each test and program objective as given in the body of the table.

Note: Multivariate vector includes both program objectives and job importance objectives; however, only program objective evaluation measures are used to test the hypothesis.

Note: Dash (--) indicates non-significance of P-value larger than .10.

a Cochran's C Test

c Approximate F

b Bartlett-Box's F Test

d Chi-square

Note: \* indicates marginal significance of P-values > .05 but < .10. These values were not used to determine acceptance or rejection of hypothesis.

The results from Hypothesis 7 using MANOVA and nonparametric tests are shown in Table 17. The univariate homogeneity of variance test produced significance ( $P < .05$ ) for Cochran's C test on program objectives 1, 2, 3, 4, 7, 9, and 10. Bartlett-Box's F test produced significance ( $P < .05$ ) on all program objectives except number 6. The multivariate test for homogeneity of dispersion matrices (Box's M) produced significance ( $P < .05$ ) for all ten program objectives.

Bartlett's test of sphericity also yielded significance ( $P < .05$ ) for all ten program objectives. Bartlett's test is highly sensitive to non-normality; therefore, the results of this test may not be true, due to the non-normality of groups involved.

The multivariate test for effect of group Wilk's lambda yielded significance for program objective 3 ( $P < .05$ ) and marginal significance on program objective 4 ( $P = .090$ ). The univariate F test for effect of group produced statistical significance for program objective 3 ( $P < .05$ ) and marginal significance on program objectives 5 ( $P = .060$ ), 8 ( $P = .078$ ), and 10 ( $P = .074$ ).

The nonparametric Kruskal-Wallis test produced significance ( $P < .05$ ) for program objective 3. Since the univariate and nonparametric tests both produced significance ( $P < .05$ ) for program objective 3, there appears to be a difference between groups for the achievement of the program



objective dealing with growth and development of children and youth. The box plots show a moderate spread of medians for program objective 3 (see Appendix I). Hypothesis 7 was rejected at the .05 level only for program objective 3.

TABLE 18

Means and Standard Deviation for Hypothesis 7 on Program Objectives Perceived by Graduates based upon the Year of Graduation

Program Objectives	Year	Mean	Standard Deviation	Graduates
1	1983	1.783	.503	29
	1984	2.205	.837	23
	1985	1.778	.618	36
	1986	1.805	.757	30
	1987	2.080	.917	25
	Entire Sample	1.906	.736	143
2	1983	1.758	.840	29
	1984	1.956	.928	23
	1985	1.601	.621	36
	1986	1.622	.647	30
	1987	1.973	1.079	25
	Entire Sample	1.759	.821	143
3	1983	2.006	.829	29
	1984	2.217	1.019	23
	1985	1.555	.486	36
	1986	1.672	.624	30
	1987	2.093	.904	25
	Entire Sample	1.872	.799	143
4	1983	1.483	.828	29
	1984	1.565	.933	23
	1985	1.500	.746	36
	1986	1.416	.603	30
	1987	1.740	1.173	25
	Entire Sample	1.531	.852	143
5	1983	2.120	1.272	29
	1984	2.173	1.466	23
	1985	1.403	.725	36
	1986	1.700	1.063	30
	1987	1.960	1.369	25
	Entire Sample	1.832	1.191	143
6	1983	1.869	.746	29
	1984	1.926	.854	23
	1985	1.614	.618	36
	1986	1.813	.769	30
	1987	2.052	.925	25
	Entire Sample	1.834	.778	143

(table continued next page)

TABLE 18 (cont.)

Program Objectives	Year	Mean	Standard Deviation	Graduates
7	1983	1.620	.883	29
	1984	1.956	.987	23
	1985	1.458	.512	36
	1986	1.533	.776	30
	1987	1.920	1.152	25
	Entire Sample	1.668	.869	143
8	1983	1.862	.875	29
	1984	2.130	1.325	23
	1985	1.472	.696	36
	1986	1.733	1.112	30
	1987	2.160	1.344	25
	Entire Sample	1.832	1.081	143
9	1983	1.873	.813	29
	1984	1.869	.988	23
	1985	1.629	.655	36
	1986	1.522	.591	30
	1987	1.960	1.068	25
	Entire Sample	1.752	.825	143
10	1983	1.620	.960	29
	1984	1.869	1.169	23
	1985	1.361	.742	36
	1986	1.567	.763	30
	1987	2.060	1.333	25
	Entire Sample	1.661	1.004	143

The group means and standard deviations for responses on Hypothesis 7 are shown in Table 18. The group means tended to reflect the particular year that they represent. In general, the means from the 1984 and 1987 groups tended to be larger than those of the other three years. The standard deviations reflect the same pattern. The box plots for Hypothesis 7 indicated a similar pattern with respect to medians (see Appendix I). There are a number of extreme outliers found for each of the five years.

Appendix A lists the Teacher Education Program Objectives for William Penn College. The survey instrument was designed to relate to each objective area.

Objective 1: Become acquainted with the philosophy, history, organization, administration and role of education and the educator in American society.

This was answered in Part I of the Survey.

Objective 2: Secure an acquaintanceship with schools and contact with students in the teaching field to help decide upon teaching as a career.

This was answered in Part I of the Survey.

Objective 3: Begin to understand be able to employ the concepts of learning theory, human development, motivation, and other factors important to education.

This was answered in Part II of the Survey.

Objective 4: Develop an understanding of the growth and behavior of children and youth..

This was answered in Part III of the Survey.

Objective 5: Become proficient in the uses of the various forms of media for classroom instruction..

This was answered in Part IV of the Survey.

Objective 6: Become acquainted with and confident enough to teach the basic techniques of music and physical education to K-12 students.

This was answered in Part V of the Survey.

Objective 7: Become acquainted with and proficient in use of various methods of teaching.

This was answered in Part VI of the Survey.

Objective 8: Gain "intern" experience from observing and participating in the regular activities of the school through observation and close classroom supervision of student teaching.

This will be answered in the summary of Written Comment 1, which follows later in this paper.

Objective 9: Become academically competent to teach in the student's area of specialization.

This was answered in Part VII of the Survey.

Objective 10: Qualify for certificates for public school teaching.

This is assumed to be met if person completed the Program.

Objective 11: Develop the student's own philosophy of education.

This was answered in Part I of the Survey.

Objective 12: Develop the concept of professionalism.

This was answered in Part IX of the Survey.

Objective 13: Achieve the necessary professional background to enter graduate college.

This is assumed to be met if the graduate completes a Program approved by NCATE, such as William Penn College's Program.

Objective 14: Have had a broad background in the liberal arts, adequate competencies and training in a major field of concentration, and adequate professional training to have reasonable chances for success as a professional teacher.

This was answered in Part X of the Survey.

In replying to the question on whether or not the early field experiences were helpful, fewer than one-tenth of the respondents did not agree that the program was valuable. More than one-half used the term "valuable" in some degree, such as "very" or "exceedingly valuable". Some called the program beneficial, very worthwhile, gave realistic expectation of teaching, or useful. The few who did not think these experiences valuable said they were not beneficial, lacked in preparation for teaching, or were a waste of time.

The elementary respondents were unanimous in calling the program valuable. They called it "positive, important, a solid foundation, best component of the program, allowed me to see what teaching is all about, and excellent in preparing for teaching."

In replying to the question of strengths and weaknesses of the major program, suggestions, and relevancy of course work to needs, again fewer than one-tenth found the program not valuable. Five respondents made no comment at all. Of the remainder, the descriptive terms were more varied, such

as "on a scale of 1-10, Penn rates a 9"; "entire program was good and I hope it remains that way"; "my liberal arts training is a definite asset to teaching"; "helped in organizing my teaching skills"; and "prepared me for my job".

Generally, the suggestions for changes were concerned with the major areas of preparation, such as in English, or Spanish, or Industrial Technology and not the teacher education program.

An overwhelming majority of the respondents were praiseworthy of the program and their preparation received at William Penn College.



## CHAPTER 5

## Summary, Conclusions, And Recommendations

Summary

The purpose of this study was to evaluate the undergraduate teacher education program at William Penn College based upon a survey of the graduates' perceptions of the program from 1983-1987, as to the effectiveness and expected benefits of the program. The study was designed to survey elementary education graduates, secondary education graduates, and their employing school supervisors. Surveys were mailed to the 194 graduates. Each graduate also received a survey to be given to the teaching supervisor, which was designed to measure the graduate's accomplishment of the teacher education program objectives. The number of surveys returned by graduates and supervisors totaled 194. One hundred and forty-three of the responses were from graduates and fifty-one responses from supervisors. The elementary graduates returned thirty-five surveys for 24.48 percent of the total. Secondary graduates returned one hundred and eight surveys for 75.52 percent of the total surveys returned.

This research was conducted as a follow-up study. The study had a basic limitation in finding the graduates from the program in 1983 through August 1987. Only the surveys returned by the subjects with teaching experience were

analyzed for statistical and non-statistical data.

The survey was structured to obtain data to answer the following questions:

1. What are the strengths and weaknesses, according to the perceptions of graduates of the William Penn College teacher education program?
2. What are the strengths and weaknesses, according to the supervisors of graduates of the William Penn College teacher education program?
3. How do the elementary and secondary major graduates of William Penn College's teacher education program perceive their achievement of program objectives in preparing them to be teachers?
4. How do the elementary graduates and their supervisors compare in their perception of program objective achievements of the William Penn College teacher education program?
5. How do the secondary graduates and their supervisors compare in their perception of program objective achievement of the William Penn College teacher education program?
6. What is the comparison between elementary and secondary graduates as to their perceived view of program objectives related to job importance?
7. What is the comparison between elementary graduates and their supervisors as to their perceived view of

program objectives related to job importance?

8. What is the comparison between secondary graduates and their supervisors as to their perceived view of program objectives related to job importance?
9. How do the graduates of the teacher education program perceive the achievement of program objectives according to year of graduation, 1983-84-85-86-87?

The null hypothesis were:

1. There is no significant difference between the elementary and secondary majors in their perceived achievement of program objectives.
2. There is no significant difference between the elementary graduates and their supervisors in their perceived achievement of program objectives.
3. There is no significant difference between the secondary graduates and their supervisors in their perceived achievement of program objectives.
4. There is no significant difference between the elementary and secondary graduates in their perceived view of program objectives related to job importance.
5. There is no significant difference between the elementary graduates and their supervisors in their perceived view of program objectives related to job importance.

6. There is no significant difference between the secondary graduates and their supervisors in their perceived view of program objectives related to job importance.
7. There is no significant difference between the graduates' perceived achievement of program objectives based upon the year of graduation, 1983-84-85-86-87.

A statistical analysis using a MANOVA was used to test hypotheses 1 through 7. Nonparametric tests were also run of each hypothesis.

The Kruskal-Wallis test results were used in developing the following conclusions, due to on the large number of outliers present in most of the box plots and their known deleterious effect on MANOVA and ANOVA.

Hypothesis 1 was rejected at the .05 level only for program objectives 2 and 5.

Hypothesis 2 was rejected at the .05 level for program objectives 1, 3, 5, 7, and 9.

Hypothesis 3 was rejected at the .05 level only for program objective 3.

Hypothesis 4 was rejected at the .05 level only for job importance objectives 2, 3, and 5.

Hypothesis 5 was rejected at the .05 level for job importance objectives 1, 2, 3, 6, 7, and 9.

Hypothesis 6 was rejected at the .05 level only for job

importance objectives 1 and 3.

Hypothesis 7 was rejected at the .05 level only for program objective 3.

### Conclusions

Based on the findings of the study, the following conclusions were made:

1. There was a difference between the elementary and secondary majors in their perceived achievement of program objectives dealing with Concepts of Learning Theories, Human Development, and Motivation; and K-12 Techniques in Music or Physical Education.
2. There was a difference between the elementary graduates and their supervisors in their perceived achievement of program objectives dealing with Philosophy, History, Organization, Administration; Growth and Development of Children and Youth; Use of Media in Classroom; K-12 Techniques in Music or Physical Education; Competency in Area of teaching Specialty; and Concept of Professionalism.
3. There was a difference between the secondary graduates and their supervisors in the perceived achievement of the program objective dealing with Growth and Development of Children and Youth.
4. There was a difference between the elementary and secondary graduates in their perceived view of

program objectives related to job importance in the areas of Philosophy, History, Organization, and Administration; Concepts of Learning Theories, Human Development, and Motivation; and Use of Media in Classroom.

5. There was a difference between the elementary graduates and their supervisors in the perceived view of program objectives related to job importance in the areas of Philosophy, History, Organization, and Administration; Concepts of Learning Theories, Human Development, and Motivation; Teaching Methods; Competency in Area of Teaching Specialty; and Concept of Professionalism.
6. There was a difference between the secondary graduates and their supervisors in their perceived view of program objectives related to job importance in the area of Growth and Development of Children and Youth.
7. There was a difference between the graduates' perceived achievement of program objectives based upon the year of graduation, 1983-84-85-86-87 in the area of Growth and Development of Children and Youth.

### Recommendations

As a result of the information obtained from the data analysis, the following recommendations are made:

1. Consideration should be given to future studies which examine the curriculum, faculty, and method of instruction.
2. Consideration should be given to obtaining continuous feedback on the achievement of program objectives.
3. Consideration should be given to the findings of this study, by the William Penn College teacher education department, as to the degree of achievement for program objectives.
4. This researcher recommends that follow-up studies of the teacher education program should be conducted on a regular basis every three to five years to identify trends and to strengthen the level of achievement of program objectives.

### Implications

Based on the findings of this study, the following implications are made:

1. Early field experiences are valuable in building a students' perception of teaching. Major emphasis needs to be placed on ensuring that students receive quality observation experiences. The clinical schools designated by William Penn College

may become the only schools that students may use for early field experiences.

2. Areas of concentration for majors such as English, Spanish, Industrial Technology, etc may need to be assessed as to curriculum content. The mastery of this content reflects how successful the student will be in their student teaching experience.
3. There is a need the build a stronger bond between the content majors and the teacher education program.
4. The elementary and secondary majors need to have a checking system in place to help ensure that both majors accomplish similar training in methods classes.
5. More emphasis needs to be placed on the techniques used for classroom control and discipline.
6. More emphasis needs to be placed on incorporating global issues into the curriculum development course.
7. More emphasis needs to be placed on building career awareness into unit plans and curriculum guides.
8. There needs to be uniform instruction given to students by the teacher education department and the Career Placement Office concerning credentials.
9. The information packet give to cooperating teachers and schools needs to be updated.



10. Careful screening of applicants entering teacher education is needed to help ensure top quality teachers to teach tomorrow's leaders.

Evaluation of teacher education programs has become a continual, ongoing process. Standards, such as NCATE, require education programs to maintain a relationship with their graduates. The results of which are used to improve and modify program guidelines. Higher education has the task of providing the best education possible for their students, as the graduates become the teachers of tomorrow's leaders.

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## APPENDIXES

APPENDIX A  
Teacher Education Objectives

## APPENDIX A

TEACHER EDUCATION OBJECTIVES

Upon completion of the Teacher Education Program at William Penn College, the student will:

1. Become acquainted with the philosophy, history, organization, administration and role of education and the educator in American Society.
2. Secure an acquaintanceship with schools and contact with students in the teaching field to help decide upon teaching as a career.
3. Begin to understand and be able to employ the concepts of learning theory, human development, motivation, and other factors important to education.
4. Develop an understanding of the growth and behavior of children and youth.
5. Become proficient in the uses of the various forms of media for classroom instruction.
6. Become acquainted with and confident enough to teach the basic techniques of music and physical education to K-12 students.
7. Become acquainted with and proficient in use of various methods to teaching.
8. Gain "intern" experience form observing and participation in the regular activities of the school through observation and close classroom supervision of student teaching.
9. Become academically competent to teach in the student's area of specialization.
10. Qualify for certificates for public school teaching.
11. Develop the student's own philosophy of education.
12. Develop the concept of professionalism.
13. Achieve the necessary professional background to enter graduate college.



14. Have had a broad background in the liberal arts, adequate competencies and training in a major field of concentration, and adequate professional training to have reasonable chances for success as a professional teacher.

APPENDIX B

Cover Letter to Graduates



# WILLIAM PENN COLLEGE

201 Trueblood Avenue  
Oskaloosa, Iowa 52577

June 7, 1988

Dear William Penn Graduate:

The Department of Teacher Education at William Penn College is conducting a five-year study of its graduates from 1983-1987. Such a survey is required by NCATE and the Iowa Department of Education as part of the Evaluation and Accreditation of our Teacher Education Program. You may provide us with valuable information needed for our program evaluation and improvement.

Please answer the survey first as an evaluation of our program objectives and then as how the program objectives relate to your job importance. If you have been teaching during the 1987-1988 school year, please give the supervisor's survey to the person who evaluated you. If you have not been teaching, please return the supervisor's survey in the prepaid envelope. The information received will be used to assess the supervisor's perception of our program. Please urge your supervisor to return the survey as soon as possible.

We ask that you NOT sign your name or identify yourself. There has been a random number assigned to your survey for recording purposes only. We appreciate your taking a few minutes of your time to fill out the survey, at your earliest convenience. We do stress the importance of returning the survey, as we need over 60% return to have a valid sampling. A follow-up reminder will be sent after July 1, if an adequate response is not received.

Thank you for your time and input into the strengthening of the William Penn Teacher Education program.

Sincerely,

Adolph E. Goedeken,  
Director of Teacher Education.

AEG/rg  
Enclosures

APPENDIX C  
Survey to Graduates

# EVALUATION OF TEACHER EDUCATION

101

**Instructions:** Please evaluate how the program you took in the area of teacher education at William Penn College has helped you in the following skills. Consider only your William Penn degree, not what you have learned on the job or in other programs of study. Rate how well the William Penn program helped in the various areas (program evaluation), and rate how important you think the skills listed below are in doing your current job effectively (importance to job). Circle your responses using the rating scale below.

<u>Program Evaluation:</u>	1 of great benefit	<u>Importance to Job:</u>	1 of great importance
	2 of some benefit		2 of some importance
	3 undecided		3 undecided
	4 of little benefit		4 of little importance
	5 of no benefit		5 of no importance

	Program Evaluation	Job Importance
<b>I. PHILOSOPHY, HISTORY, ORGANIZATION, ADMINISTRATION</b>		
1. familiarize self with philosophy of American education.....	1 2 3 4 5	1 2 3 4 5
2. familiarize self with historical background of American education.....	1 2 3 4 5	1 2 3 4 5
3. understand organization of American education.....	1 2 3 4 5	1 2 3 4 5
4. understand role of administration in American education.....	1 2 3 4 5	1 2 3 4 5
5. familiarize self with role of teacher.....	1 2 3 4 5	1 2 3 4 5
6. understand importance of teaching as a profession.....	1 2 3 4 5	1 2 3 4 5
7. familiarize self with social patterns of school community.....	1 2 3 4 5	1 2 3 4 5
<b>II. CONCEPTS OF LEARNING THEORIES, HUMAN DEVELOPMENT, AND MOTIVATION:</b>		
8. understand concepts of how students learn.....	1 2 3 4 5	1 2 3 4 5
9. understand stages of human development (social, physical, cognitive).....	1 2 3 4 5	1 2 3 4 5
10. understand and implement appropriate motivational techniques.....	1 2 3 4 5	1 2 3 4 5
<b>III. GROWTH AND DEVELOPMENT OF CHILDREN AND YOUTH:</b>		
11. develop an understanding of growth and behavior of children and youth.....	1 2 3 4 5	1 2 3 4 5
12. plan for and deal with differences in student behavior.....	1 2 3 4 5	1 2 3 4 5
13. demonstrate ability to deal with emotional and/or behavior problems.....	1 2 3 4 5	1 2 3 4 5
14. understand and accept differences among persons.....	1 2 3 4 5	1 2 3 4 5
15. understand nature of discrimination and prejudice.....	1 2 3 4 5	1 2 3 4 5
16. develop skills and attitudes associated with "good human relations".....	1 2 3 4 5	1 2 3 4 5
<b>IV. USE OF MEDIA IN CLASSROOM:</b>		
17. understand use of media hardware equipment for classroom.....	1 2 3 4 5	1 2 3 4 5
18. understand use of media software (i.e., bulletin board, trans- parency, etc.) in classroom .....	1 2 3 4 5	1 2 3 4 5
<b>V. K-12 TECHNIQUES IN MUSIC OR PHYSICAL EDUCATION:</b>		
19. familiarize self for teaching basic concepts of K-12 music or physical education .....	1 2 3 4 5	1 2 3 4 5
20. develop skills and techniques for teaching music or physical education .....	1 2 3 4 5	1 2 3 4 5
<b>VI. TEACHING METHODS:</b>		
21. understand and use effectively various teaching strategies (i.e., lecture, demonstration, discussion).....	1 2 3 4 5	1 2 3 4 5
22. administer and interpret results of diagnostic instruments to assess students' abilities .....	1 2 3 4 5	1 2 3 4 5
23. demonstrate ability to establish course objectives appropriate to learner characteristics .....	1 2 3 4 5	1 2 3 4 5
24. understand curricular practices of school.....	1 2 3 4 5	1 2 3 4 5
25. identify strengths and weaknesses as a potential teacher.....	1 2 3 4 5	1 2 3 4 5
26. demonstrate ability to monitor classroom interactions effectively .....	1 3 4 4 5	1 2 3 4 5

(Continue on other side)

METHODS (continued)

	<u>Program</u> <u>Evaluation</u>					<u>Job</u> <u>Importance</u>				
illustrate ability to plan activities that integrate course objectives and individual learner differences.....	1	2	3	4	5	1	2	3	4	5
illustrate ability to evaluate learner accomplishments of published objectives.....	1	2	3	4	5	1	2	3	4	5
identify and use techniques to evaluate and improve own teaching effectiveness.....	1	2	3	4	5	1	2	3	4	5
illustrate ability to identify needed improvements in the curriculum .....	1	2	3	4	5	1	2	3	4	5

SKILLS IN AREA OF TEACHING SPECIALTY:

illustrate ability to teach in area of teaching specialty....	1	2	3	4	5	1	2	3	4	5
prepare and demonstrate adequate academic training in area of teaching specialty.....	1	2	3	4	5	1	2	3	4	5

KNOWLEDGE OF EDUCATION:

formulate personal philosophy of education.....	1	2	3	4	5	1	2	3	4	5
---	---	---	---	---	---	---	---	---	---	---

KNOWLEDGE OF PROFESSIONALISM:

formulate realistic definition of professional role in education.....	1	2	3	4	5	1	2	3	4	5
interact with professionals in field (conferences, organizations, etc.).....	1	2	3	4	5	1	2	3	4	5
familiarize self with current developments in teaching field.	1	2	3	4	5	1	2	3	4	5

LIBERAL ARTS:

illustrate knowledge of broad liberal arts background.....	1	2	3	4	5	1	2	3	4	5
understand importance of liberal arts to classroom teacher...	1	2	3	4	5	1	2	3	4	5

Comments about your early field experience and "intern" experience. Were they helpful? Why or why not?

Comments about your degree program (include strengths and/or weaknesses of your program--suggestions, relevancy of course work to your needs, etc.

## APPENDIX D

### Cover Letter to Supervisors



## WILLIAM PENN COLLEGE

201 Trueblood Avenue  
Oskaloosa, Iowa 52577

June 7, 1988

Dear Supervisor of a  
William Penn College Graduate:

The Department of Teacher Education at William Penn College is conducting a five-year study of its graduates from 1983-1987. Such a survey is required by NCATE and the Iowa Department of Education as part of the Evaluation and Accreditation of the William Penn College Teacher Education program. You may provide us with valuable information needed for program evaluation.

Please fill out the survey by assessing the graduate's performance of program objectives, and the corresponding importance to the graduate's job. You need not identify the graduate.

Thank you for taking a few minutes of your time to give us valuable information. We would appreciate your returning the survey in the prepaid envelope at your earliest convenience.

Sincerely,

Adolph E. Goedeken,  
Director of Teacher Education.

AEG/rg  
Enclosures



APPENDIX E  
Survey to Supervisors

EVALUATION OF TEACHER EDUCATION

Instructions: Please evaluate to what extent the graduate of William Penn College Teacher Education Program has achieved the program objectives listed below (program evaluation). Also rate how important these skills are to a teaching position (importance to job). Circle your responses using the rating scale below:

Program Evaluation:	1 of great benefit	Importance to Job:	1 of great importance
	2 of some benefit		2 of some importance
	3 undecided		3 undecided
	4 of little benefit		4 of little importance
	5 of no benefit		5 of no importance

- |  | Program<br>Evaluation | Job<br>Importance |
|--|-----------------------|-------------------|
| <u>I. PHILOSOPHY, HISTORY, ORGANIZATION, ADMINISTRATION:</u>   |                       |                   |
| 1. shows familiarity with philosophy of American education.....  | 1 2 3 4 5             | 1 2 3 4 5         |
| 2. shows familiarity with historical background of American education .....  | 1 2 3 4 5             | 1 2 3 4 5         |
| 3. shows understanding of organization of American education....   | 1 2 3 4 5             | 1 2 3 4 5         |
| 4. shows understanding of role of administration in American education.....  | 1 2 3 4 5             | 1 2 3 4 5         |
| 5. shows familiarity with role of teacher.....   | 1 2 3 4 5             | 1 2 3 4 5         |
| 6. shows understanding of importance of teaching as profession..   | 1 2 3 4 5             | 1 2 3 4 5         |
| 7. shows familiarity with social patterns of school community....  | 1 2 3 4 5             | 1 2 3 4 5         |
| <u>II. CONCEPTS OF LEARNING THEORIES, HUMAN DEVELOPMENT, AND MOTIVATION:</u>   |                       |                   |
| 8. shows understanding of concepts of how students learn.....  | 1 2 3 4 5             | 1 2 3 4 5         |
| 9. shows understanding of stages of human development (social, physical, cognitive).....                                   | 1 2 3 4 5             | 1 2 3 4 5         |
| 10. shows understanding of and ability to implement appropriate motivation techniques.....                                 | 1 2 3 4 5             | 1 2 3 4 5         |
| <u>III. GROWTH AND DEVELOPMENT OF CHILDREN AND YOUTH:</u>  |                       |                   |
| 11. shows understanding of the development of growth and behavior of children and youth.....                               | 1 2 3 4 5             | 1 2 3 4 5         |
| 12. shows planning for and dealing with differences in student behavior.....   | 1 2 3 4 5             | 1 2 3 4 5         |
| 13. shows ability to deal with emotional and/or behavior problems..  | 1 2 3 4 5             | 1 2 3 4 5         |
| 14. shows understanding and acceptance of differences among persons.....   | 1 2 3 4 5             | 1 2 3 4 5         |
| 15. shows understanding of nature of discrimination and prejudice..  | 1 2 3 4 5             | 1 2 3 4 5         |
| 16. shows skills and attitudes association with "good human relations".....  | 1 2 3 4 5             | 1 2 3 4 5         |
| <u>IV. USE OF MEDIA IN CLASSROOM:</u>  |                       |                   |
| 17. shows understanding of use of media hardware equipment for classroom.....  | 1 2 3 4 5             | 1 2 3 4 5         |
| 18. shows understanding of use of media software (i.e., bulletin board, transparency, etc.) in classroom.....              | 1 2 3 4 5             | 1 2 3 4 5         |
| <u>V. K-12 TECHNIQUES IN MUSIC OR PHYSICAL EDUCATION:</u>  |                       |                   |
| 19. shows familiarity with teaching basic concepts of K-12 music or physical education.....                                | 1 2 3 4 5             | 1 2 3 4 5         |
| 20. shows knowledge of skills and techniques for teaching music or physical education.....                                 | 1 2 3 4 5             | 1 2 3 4 5         |
| <u>VI. TEACHING METHODS:</u>   |                       |                   |
| 21. shows understanding and effective use of various teaching strategies (i.e., lecture, demonstration, discussion).....   | 1 2 3 4 5             | 1 2 3 4 5         |
| 22. shows knowledge of administering and interpreting results of diagnostic instruments to assess students' abilities..... | 1 2 3 4 5             | 1 2 3 4 5         |

(continue on other side)

		Program	Job
		Evaluation	Importance
VI.	<u>TEACHING METHODS(continued)</u>		
23.	shows ability to establish course objectives appropriate to learner characteristics.....	1 2 3 4 5	1 2 3 4 5
24.	shows understanding of curricular practices of school.....	1 2 3 4 5	1 2 3 4 5
25.	shows ability to identify strengths and weaknesses as a potential teacher.....	1 2 3 4 5	1 2 3 4 5
26.	shows ability to monitor classroom interactions effectively.....	1 2 3 4 5	1 2 3 4 5
27.	shows ability to plan activities that integrate course objectives and individual learner differences.....	1 2 3 4 5	1 2 3 4 5
28.	shows ability to evaluate learner accomplishments of established objectives.....	1 2 3 4 5	1 2 3 4 5
29.	shows ability to identify and use techniques to evaluate and improve own teaching effectiveness.....	1 2 3 4 5	1 2 3 4 5
30.	shows ability to identify needed improvements in the curriculum.....	1 2 3 4 5	1 2 3 4 5
VII.	<u>COMPETENCY IN AREA OF TEACHING SPECIALTY:</u>		
31.	shows ability to teach in area of teaching specialty.....	1 2 3 4 5	1 2 3 4 5
32.	shows possession of adequate academic training in area of teaching specialty.....	1 2 3 4 5	1 2 3 4 5
VIII.	<u>PHILOSOPHY OF EDUCATION:</u>		
33.	shows possession of a personal philosophy of education.....	1 2 3 4 5	1 2 3 4 5
IX.	<u>CONCEPT OF PROFESSIONALISM:</u>		
34.	shows possession of realistic definition of professional role in education.....	1 2 3 4 5	1 2 3 4 5
35.	shows interaction with professionals in field (conferences, organizations, etc.).....	1 2 3 4 5	1 2 3 4 5
36.	shows familiarity with current developments in teaching field.....	1 2 3 4 5	1 2 3 4 5
X.	<u>LIBERAL ARTS:</u>		
37.	shows knowledge of broad liberal arts background.....	1 2 3 4 5	1 2 3 4 5
38.	shows understanding of importance of liberal arts to classroom teacher.....	1 2 3 4 5	1 2 3 4 5

## APPENDIX F

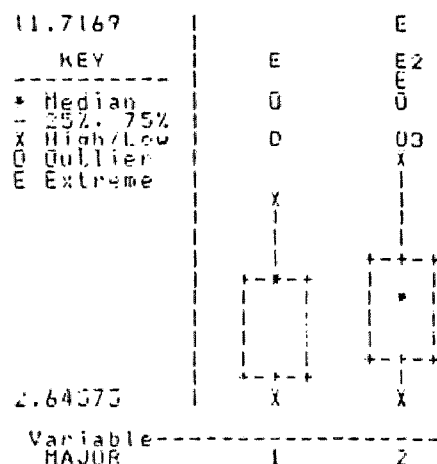
Box Plots for Hypotheses 1 and 4

7-Nov-88 SUPERVISORS AND GRADUATES  
16:28:20 DIAL CENTER - DRAKE UNIVERSITY on DRAKE::

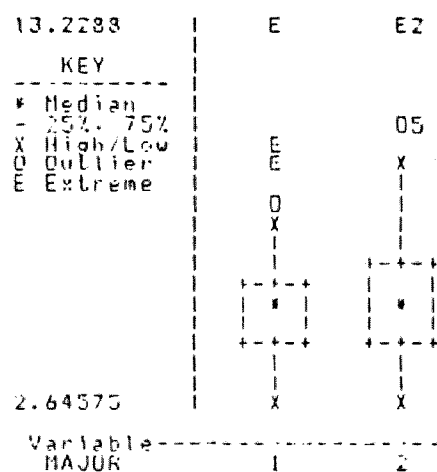
VMS V5.0

\*\*\*\*\* ANALYSIS OF VARIANCE

Box-Plots For Variable .. FORJ1



Box-Plots For Variable .. XXI

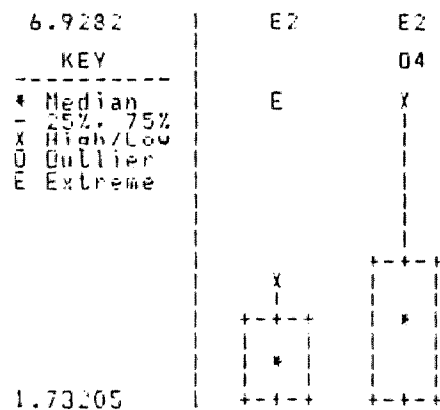


7-Nov-83 SUPERVISORS AND GRADUATES  
 16:28:30 DIAL CENTER - DRAKE UNIVERSITY on DRAKE::

VMS V5.0

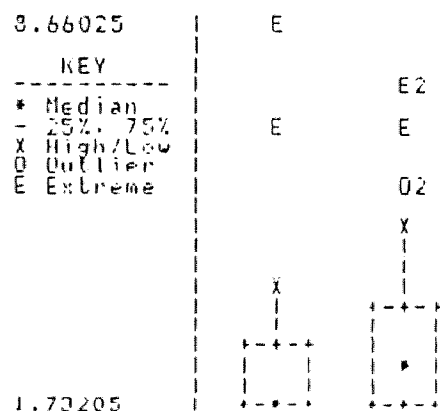
\*\*\*\*\* ANALYSIS OF VARIANCE

Box-Plots For Variable .. PDBJ2



Variable-----  
 MAJOR 1 2

Box-Plots For Variable .. XX2



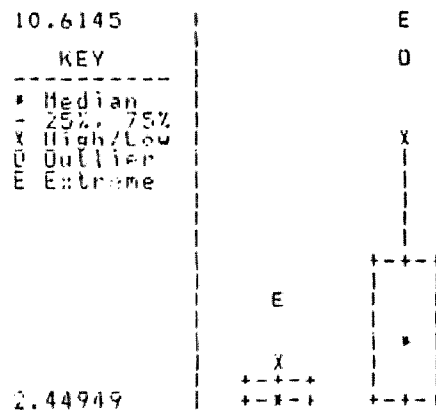
Variable-----  
 MAJOR 1 2

7-Nov-88 SUPERVISORS AND GRADUATES  
 14:30:20 DIAL CENTER - DRAKE UNIVERSITY on DRAKE::

VMS

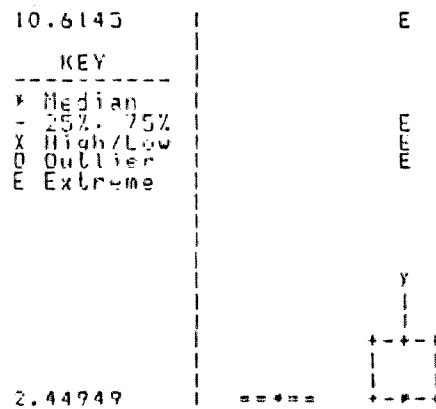
\*\*\*\*\* ANALYSIS OF VARIATION

Box-Plots For Variable .. POBJ3



Variable-----  
 GROUP 1 2

Box-Plots For Variable .. XxD

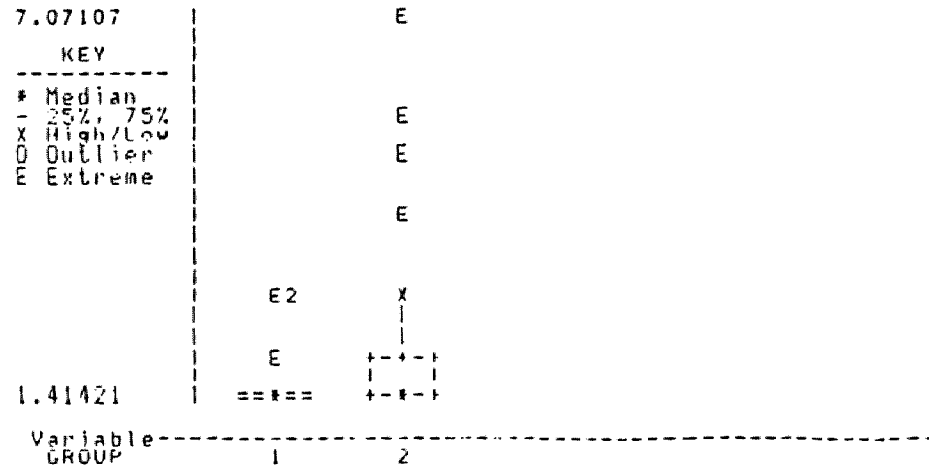


Variable-----  
 GROUP 1 2

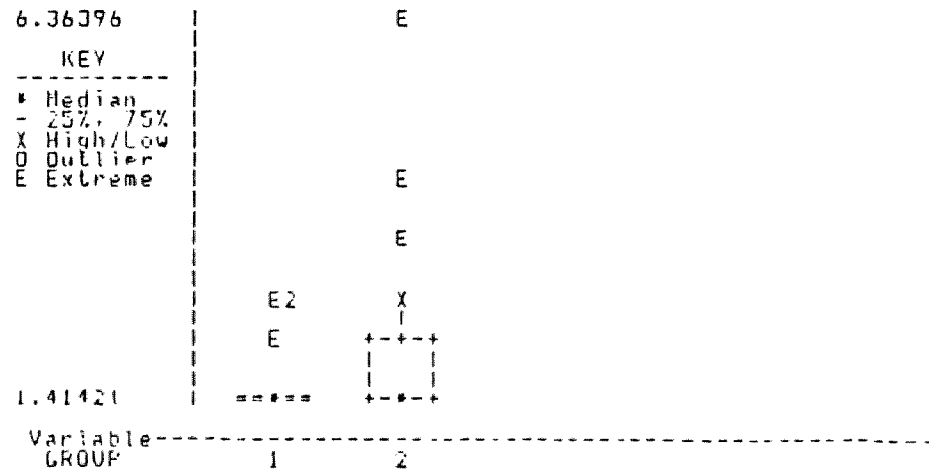
7-Nov-88 SUPERVISORS AND GRADUATES  
 14:30:26 DIAL CENTER - DRAKE UNIVERSITY on DRAKE::

\*\*\*\*\* ANALYSIS OF V A R

Box-Plots For Variable .. F0BJ4



Box-Plots For Variable .. XX4



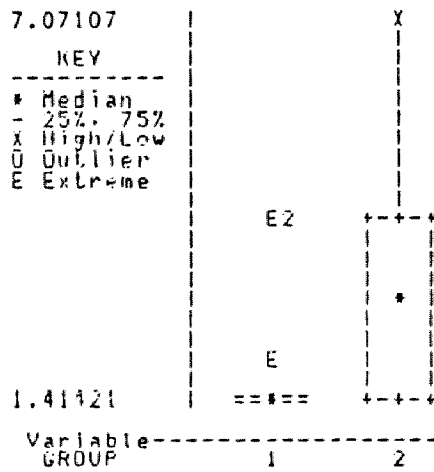


7-Nov-88 SUPERVISORS AND GRADUATES  
 14:30:33 DIAL CENTER - DRAKE UNIVERSITY on DRAKE::

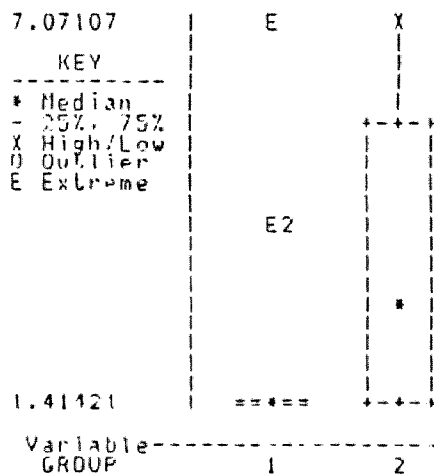
VMS V5.0

\*\*\*\*\* ANALYSIS OF VARIANCE \*\*

Box-Plots For Variable .. PDBJ5

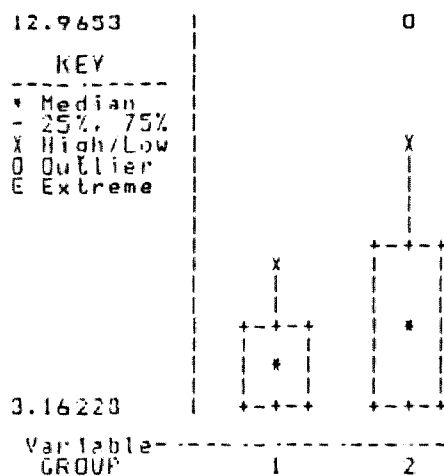


Box-Plots For Variable .. XX5

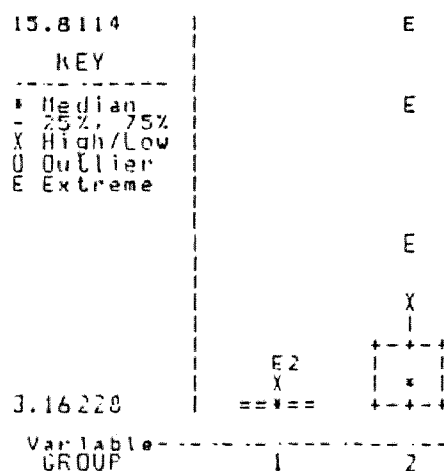


\*\*\*\*\* ANALYSIS OF VARIANCE \*\*

Box-Plots For Variable .. POBJ6



Box-Plots For Variable .. XX6

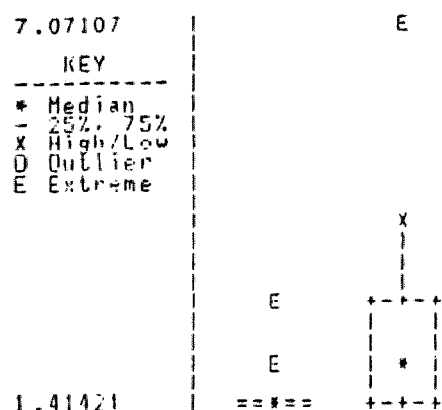


7-Nov-88 SUPERVISORS AND GRADUATES  
14:30:40 DIAL CENTER - DRAKE UNIVERSITY on DRAKE::

VMS V5.0

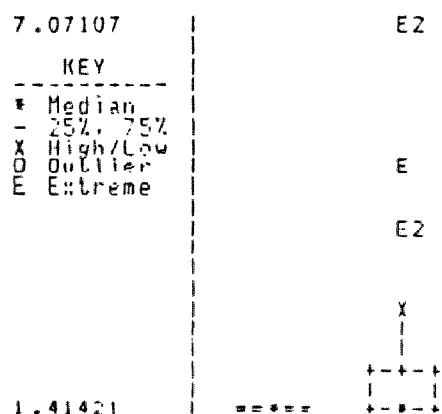
\*\*\*\*\* ANALYSIS OF VARIANCE \*\*

Box-Plots For Variable .. PORJ7



Variable  
GROUP 1 2

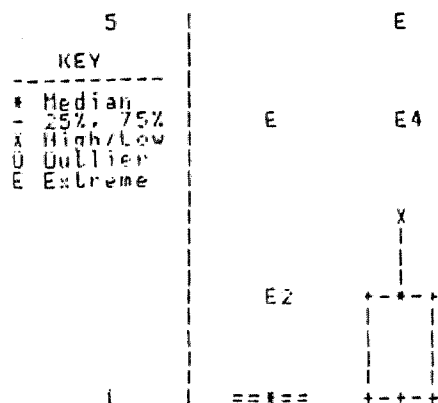
Box-Plots For Variable .. XX7



Variable  
GROUP 1 2

\*\*\*\*\* ANALYSIS OF VARIANCE \*\*

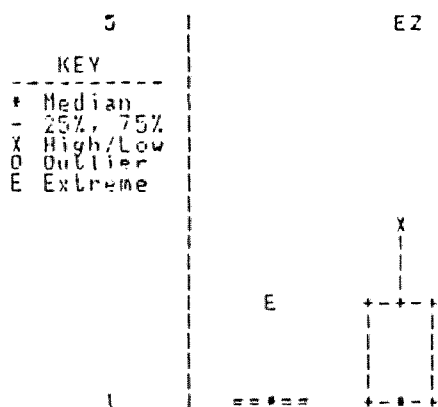
Box-Plots For Variable .. P00J8



Variable  
GROUP

1 2

Box-Plots For Variable .. X18

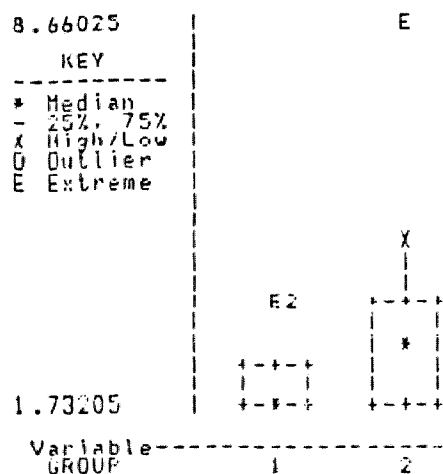


Variable  
GROUP

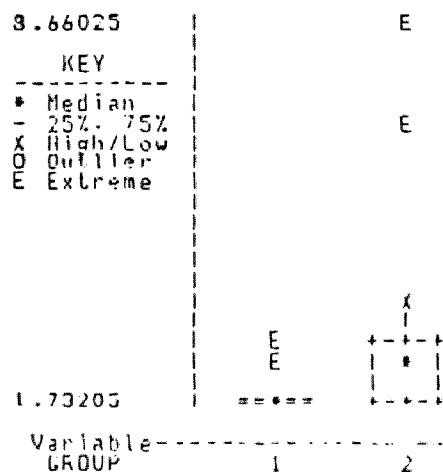
1 2

\*\*\*\*\* ANALYSIS OF VARIANCE \*

Box-Plots For Variable .. PORJ9



Box-Plots For Variable .. XX9

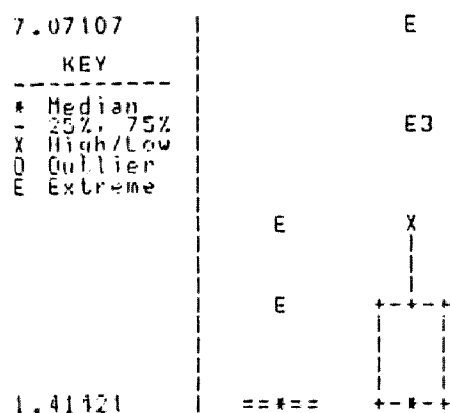


7-NOV-88 SUPERVISORS AND GRADUATES  
 14:31:00 DIAL CENTER - DRAKE UNIVERSITY on DRAKE::

VMS V5.0

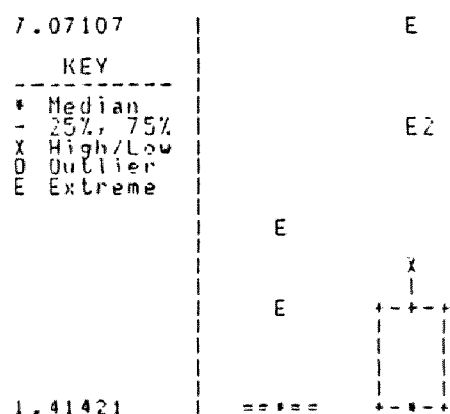
\*\*\*\*\* ANALYSIS OF VARIANCE

Box-Plots For Variable .. PORJ10



Variable-----  
 GROUP 1 2

Box-Plots For Variable .. XX10



Variable-----  
 GROUP 1 2

## APPENDIX G

Box Plots for Hypotheses 2 and 5

10.583

KEY

-----

\* Median  
- 25% - 75%  
X High/Low  
O Outlier  
E Extreme

2.64575

02

18

22

Variable  
GROUP

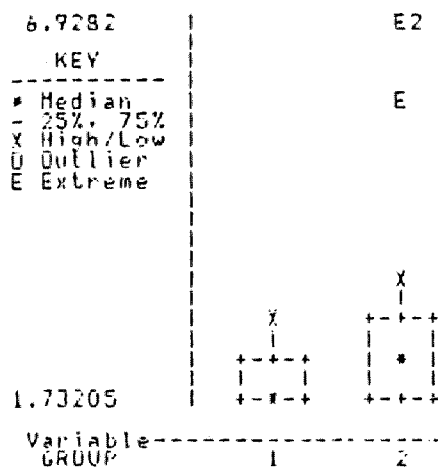
Box-Plots For Variable .. X11

[illegible]

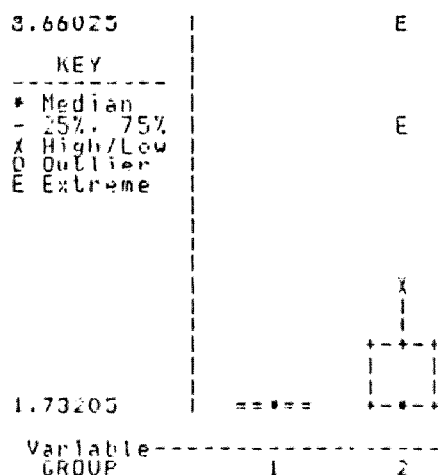


\*\*\*\*\* ANALYSIS OF VARIANCE \*\*

Box-Plots For Variable .. PORJ2



Box-Plots For Variable .. XX2

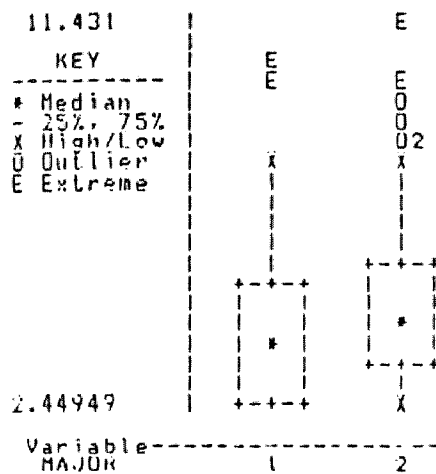


7-Nov-88 SUPERVISORS AND GRADUATES  
 16:28:40 DIAL CENTER - DRAKE UNIVERSITY on DRAKE::

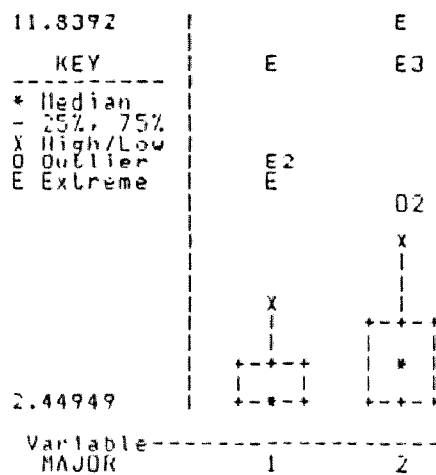
VMS V5.0

\*\*\* ANALYSIS OF VARIANCE \*\*

Box-Plots For Variable .. PORJ3

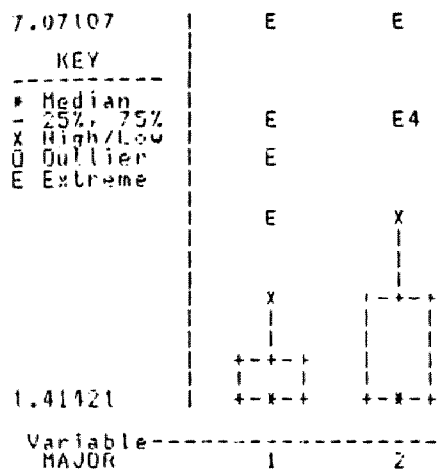


Box-Plots For Variable .. XX3

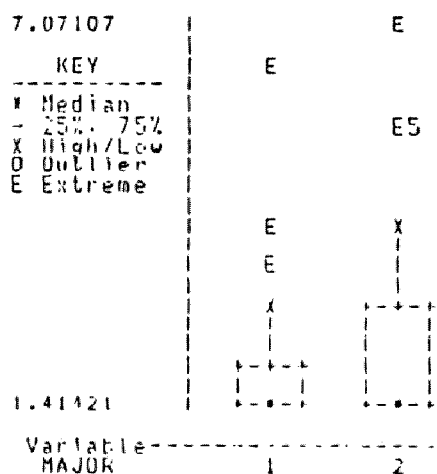


\*\*\*\*\* ANALYSIS OF VARIANCE

Box-Plots For Variable .. POBJ4



Box-Plots For Variable .. X14

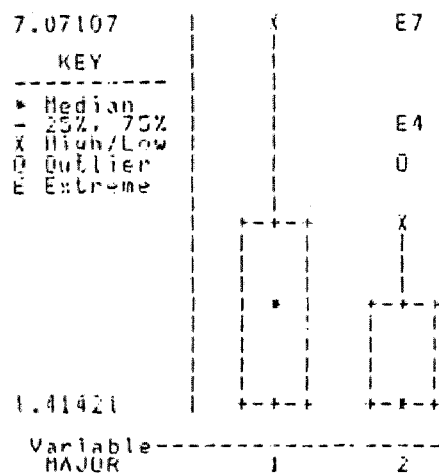


7-Nov-88 SUPERVISORS AND GRADUATES  
 16:28:59 DIAL CENTER - DRAKE UNIVERSITY on DRAKE::

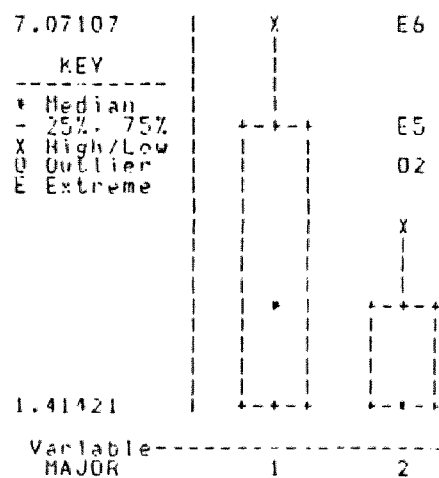
VMS V5.0

\*\*\*\*\* ANALYSIS OF VARIANCE \*\*

Box-Plots For Variable .. PORJ3

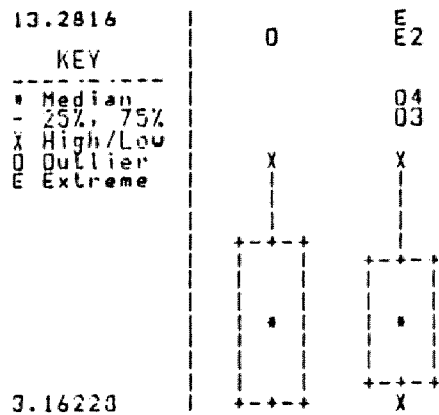


Box-Plots For Variable .. XX5

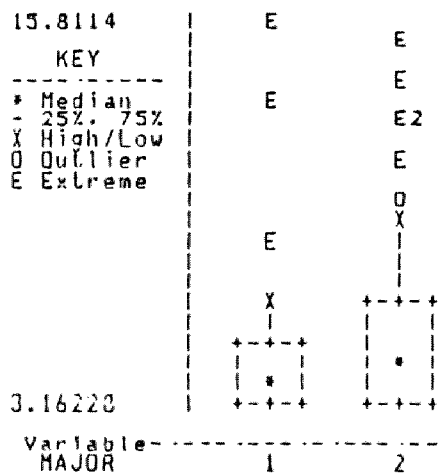


ANALYSIS OF VARIANCE --

Box-Plots For Variable .. F0BJ6

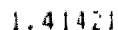


Box-Plots For Variable .. Xx6



THIS VOL. 126

## Box-Plots For Variable .. PGPJ7



1

2

7.07107



1

7

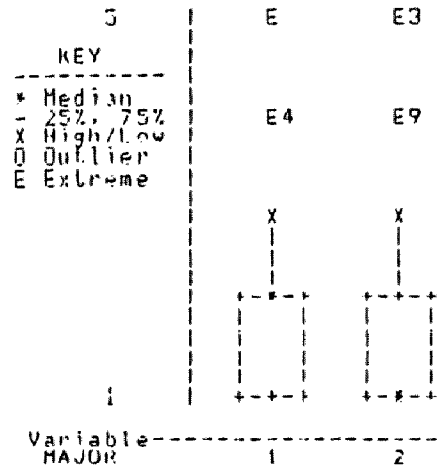
7-Nov-88  
16:29:19

SUPERVISORS AND GRADUATES  
DIAL CENTER - DRAKE UNIVERSITY on DRAKE::

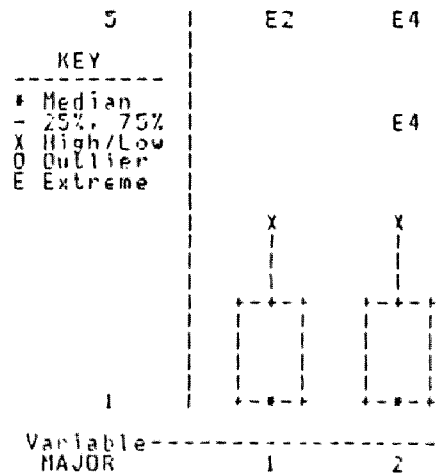
VMS V5.0

\*\*\*\*\* ANALYSIS OF VARIANCE

Box-Plots For Variable .. P0BJ8

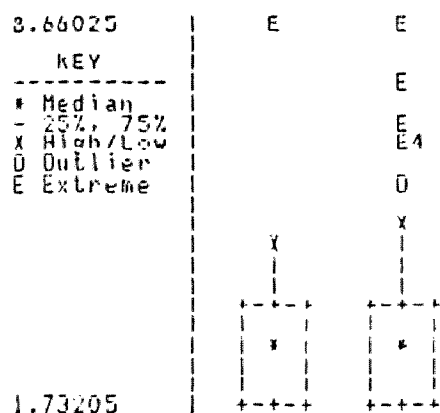


Box-Plots For Variable .. XX3



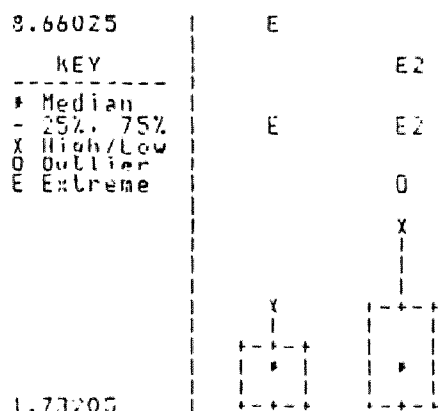
\*\*\*\*\* ANALYSIS OF VARIANCE \*

Box-Plots For Variable .. PDEJ9



Variable-----  
 MAJOR 1 2

Box-Plots For Variable .. xx9

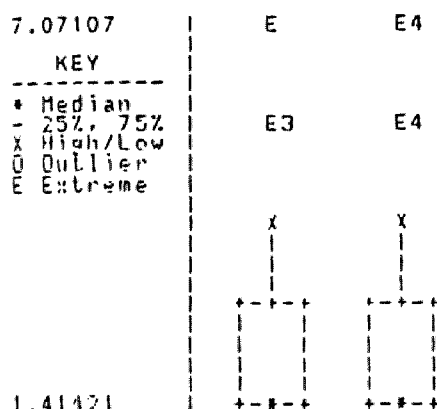


Variable-----  
 MAJOR 1 2



\*\*\*\*\* ANALYSIS OF VARIANCE

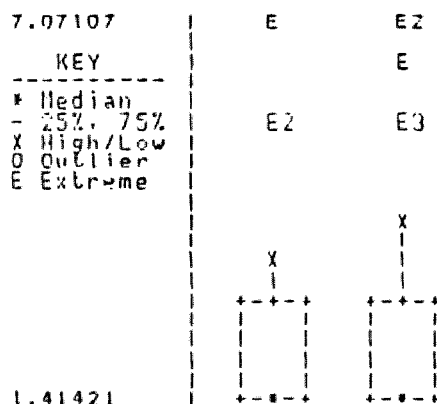
Box-Plots For Variable .. PDBJ10



Variable  
MAJOR

1 2

Box-Plots For Variable .. XX10



Variable  
MAJOR

1 2

## APPENDIX H

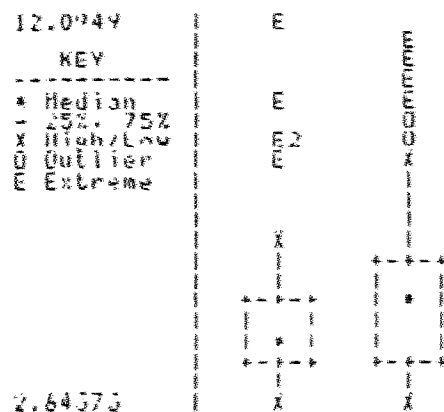
Box Plots for Hypotheses 3 and 6

7-Nov-88 SUPERVISORS AND GRADUATES  
 15:18:52 DIAL CENTER - DRAKE UNIVERSITY on DRANE:

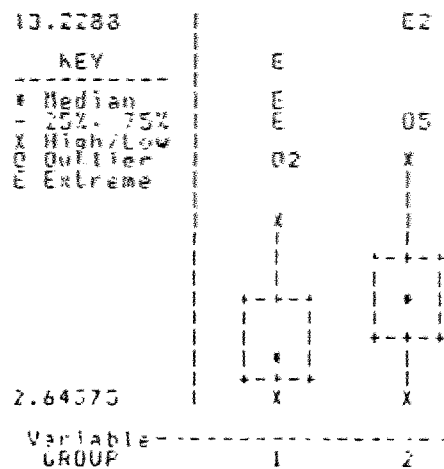
VHS 25.0

# \*\*\*\*\* ANALYSIS OF VARIANCE \*\*

Box-Plots For Variable .. POBJ1



Box-Plots For Variable .. XXI

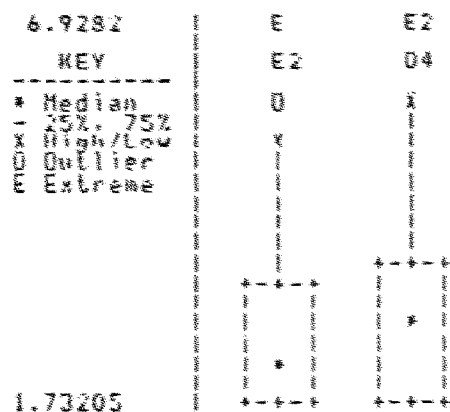


7-Nov-88 SUPERVISORS AND GRADUATES  
 15:19:06 DIAL CENTER - DRAKE UNIVERSITY on DRAKE:1

VMS V5.0

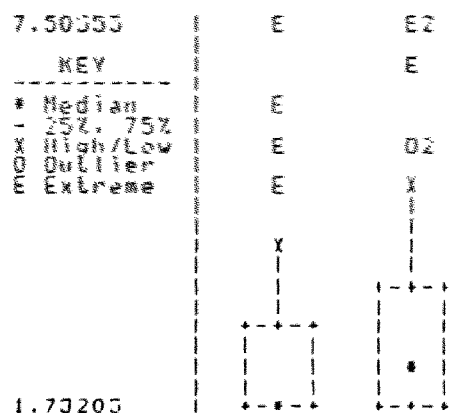
\*\*\*\*\* ANALYSIS OF VARIANCE \*\*\*\*

Box-Plots For Variable .. PUBJZ



Variable -----  
 GROUP 1 2

Box-Plots For Variable .. X12



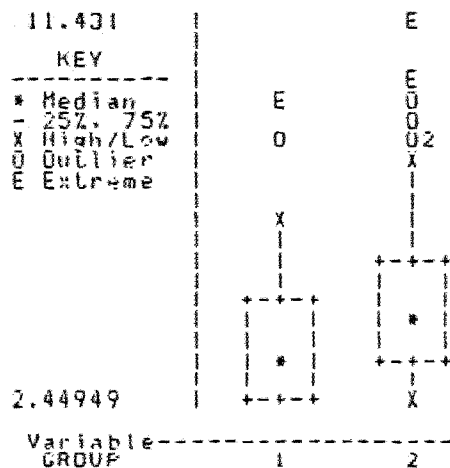
Variable -----  
 GROUP 1 2

7-Nov-88 SUPERVISORS AND GRADUATES  
 15:19:21 DIAL CENTER - DRAKE UNIVERSITY on DRAKE::

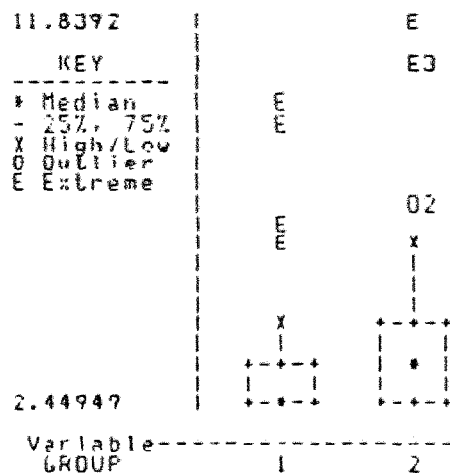
VHS V5.0

\*\*\*\*\* ANALYSIS OF VARIANCE \*\*

Box-Plots For Variable .. P0BJ3



Box-Plots For Variable .. XX3

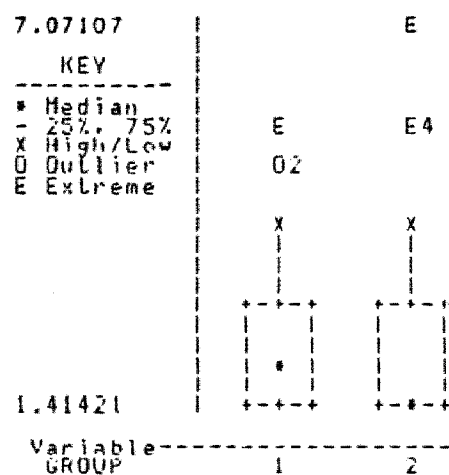


7-Nov-88 SUPERVISORS AND GRADUATES  
 15:19:05 DIAL CENTER - DRAKE UNIVERSITY on DRAKE::

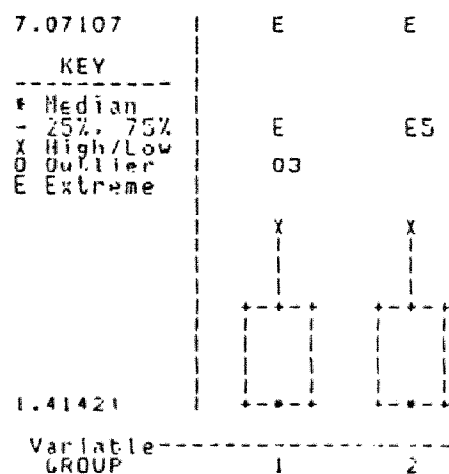
VMS V5.0

\*\*\*\*\* ANALYSIS OF VARIANCE -- I

Box-Plots For Variable .. P0BJ4

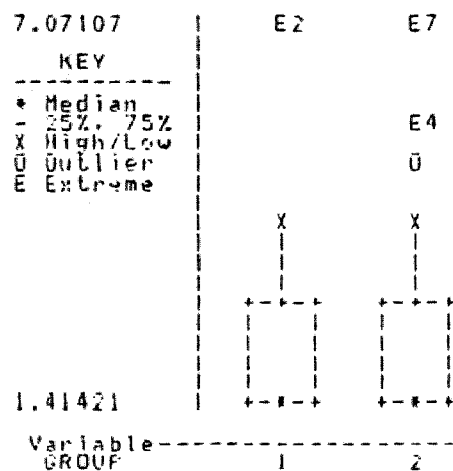


Box-Plots For Variable .. XX4

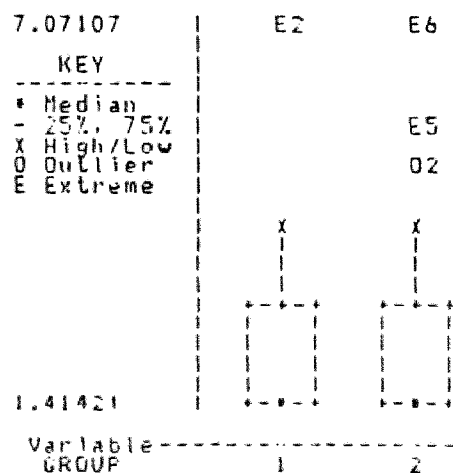


\*\*\*\*\* ANALYSIS OF VARIANCE

Box-Plots For Variable .. PBJ5

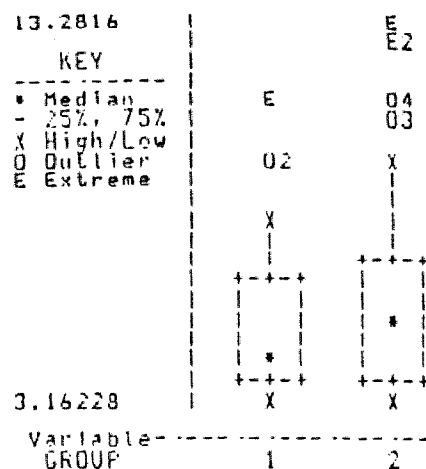


Box-Plots For Variable .. X15

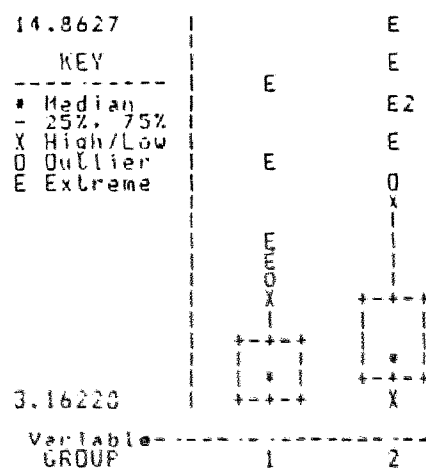


ANALYSIS OF VARIANCE

Box-Plots For Variable .. F0BJ6



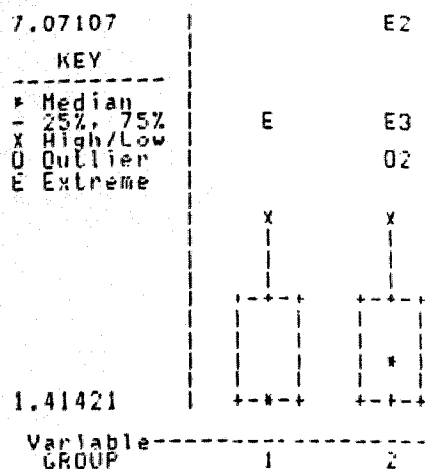
Box-Plots For Variable .. XX6



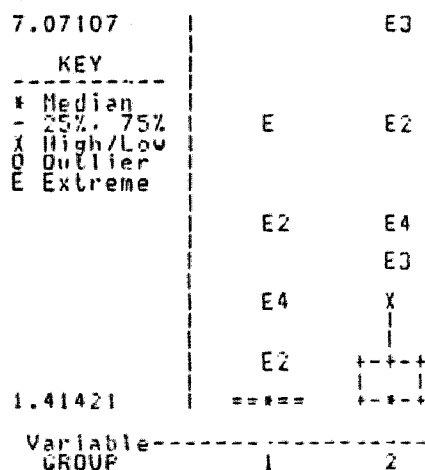


\*\*\*\*\* ANALYSIS OF VARIANCE \*\*

Box-Plots For Variable .. P0BJ7



Box-Plots For Variable .. XX7



7-Nov-88  
15:20:24

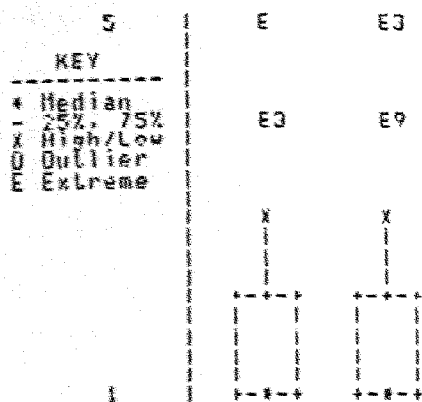
SUPERVISORS AND GRADUATES  
OTAL CENTER - DRAKE UNIVERSITY on DRAKE::

138

VMS V3.0

\*\*\*\*\* ANALYSIS OF VARIANCE \*\*

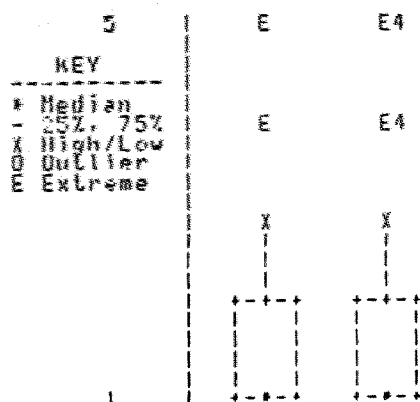
Box-Plots For Variable .. PDBJ8



Variable  
GROUP

1 2

Box-Plots For Variable .. X18

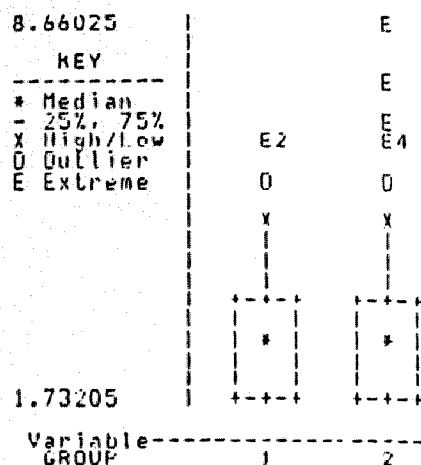


Variable  
GROUP

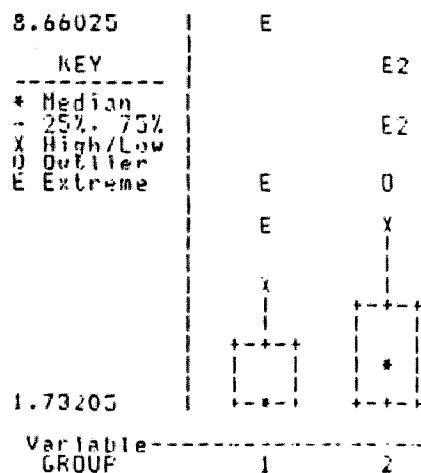
1 2

\*\*\*\*\* ANALYSIS OF VARIANCE \*\*

Box-Plots For Variable .. PDBJ9



Box-Plots For Variable .. X19



140

VMS V5.0

Box-Plots For Variable .. PUBJ10

Variable  
GROUP

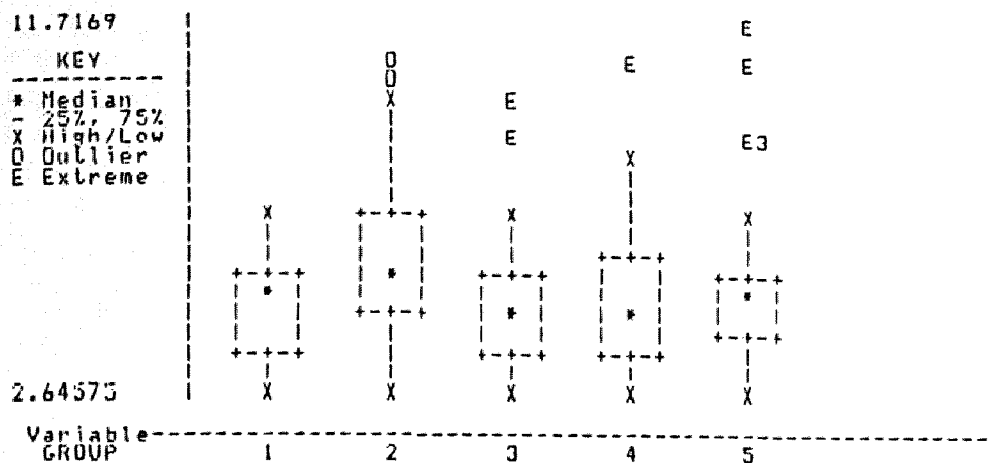
Box Plots for Hypothesis 7

7-Nov-88 SUPERVISORS AND GRADUATES  
16:16:33 DIAL CENTER - DRAKE UNIVERSITY on DRAKE::

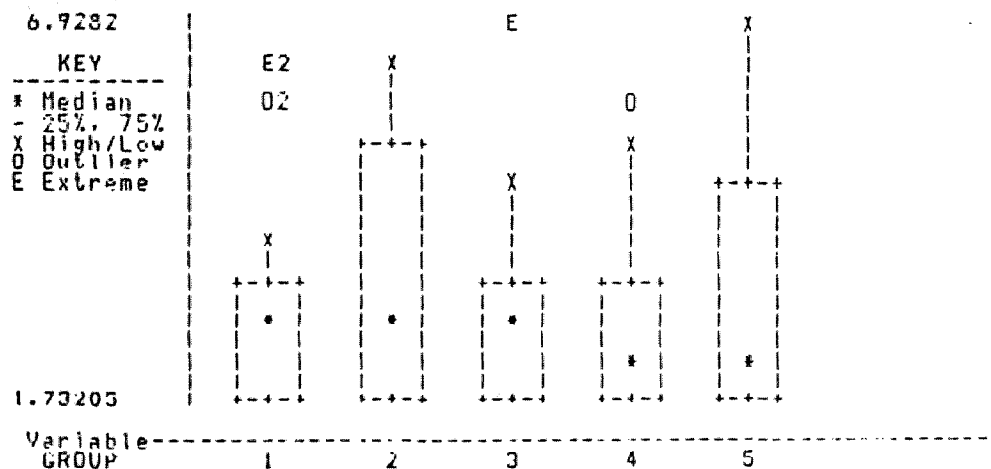
VMS V5.0

\*\*\*\*\* ANALYSIS OF VARIANCE \*\*

Box-Plots For Variable .. POBJ1

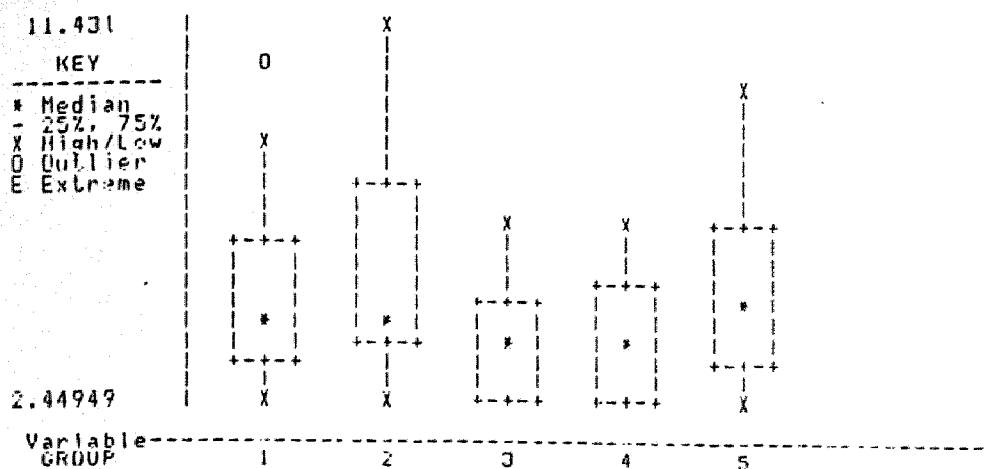


Box-Plots For Variable .. POBJ2

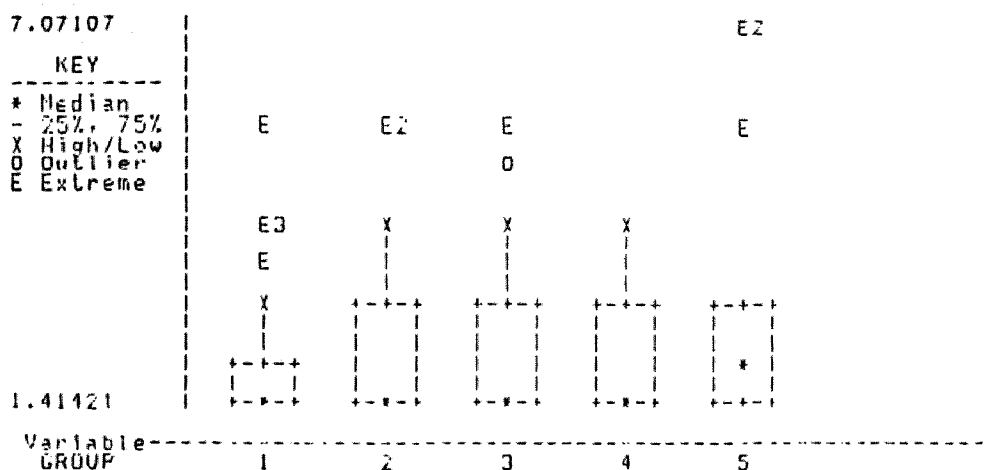


\*\*\*\*\* ANALYSIS OF VARIANCE \*\*

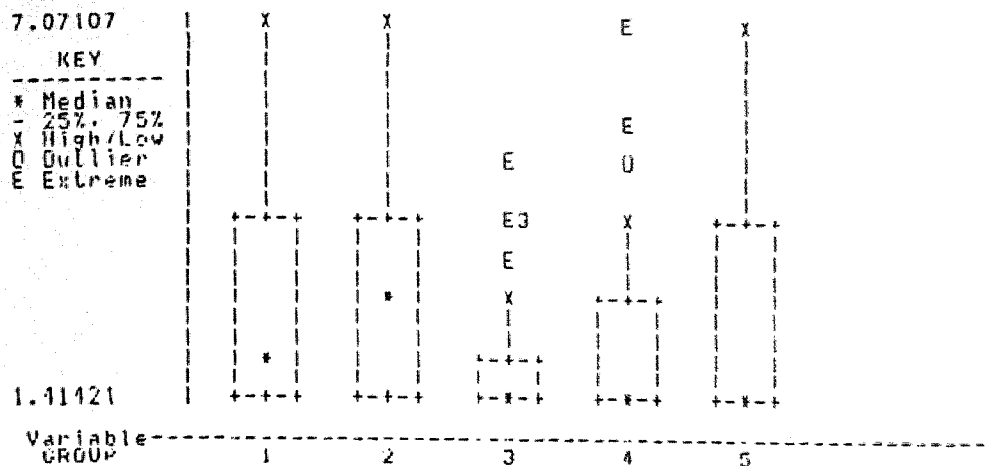
Box-Plots For Variable .. POBJ3



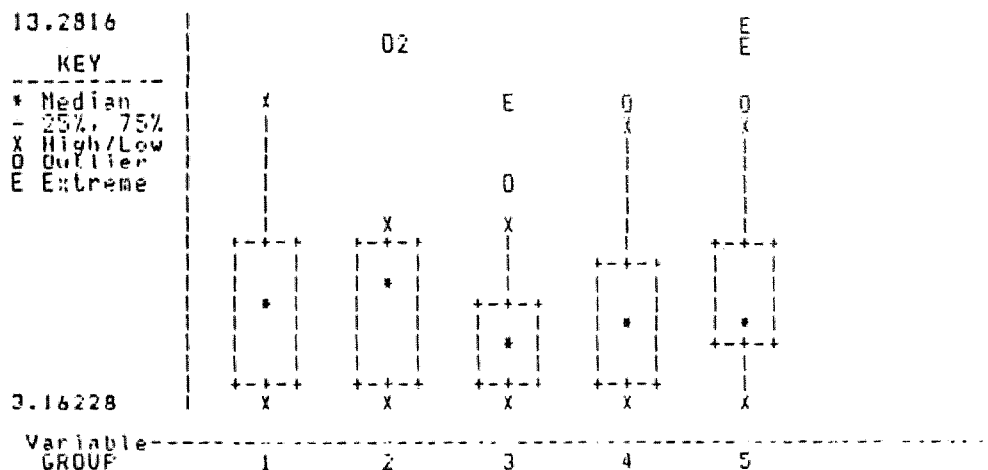
Box-Plots For Variable .. POBJ4



\*\*\*\*\* ANALYSIS OF VARIANCE --  
 Box-Plots For Variable .. P0BJ5



Box-Plots For Variable .. P0BJ6



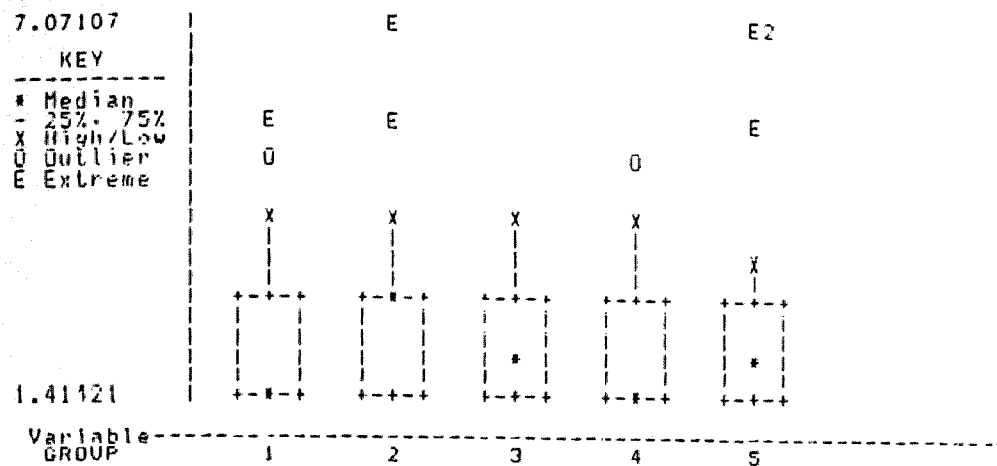


7-Nov-83 SUPERVISORS AND GRADUATES  
 16:16:34 DIAL CENTER - DRAKE UNIVERSITY on DRAKE::

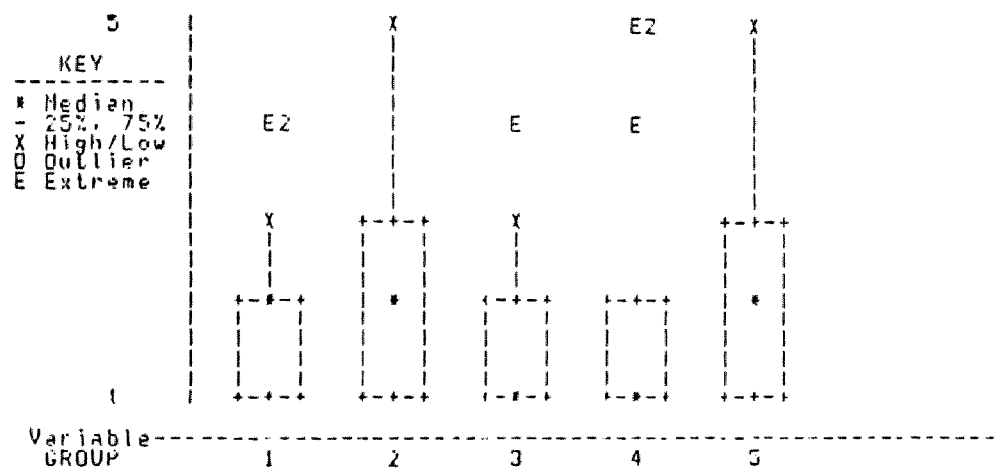
VMS V5.0

\*\*\*\*\* ANALYSIS OF VARIANCE \*\*

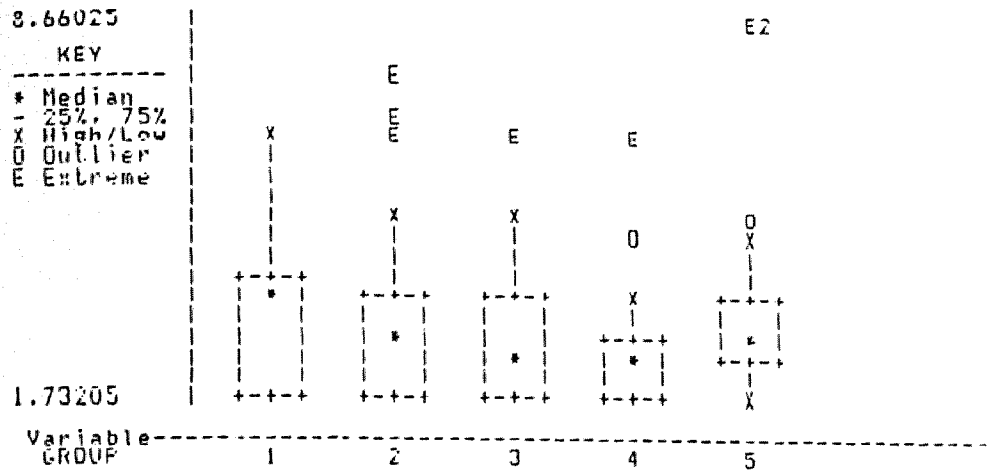
Box-Plots For Variable .. POBJ7



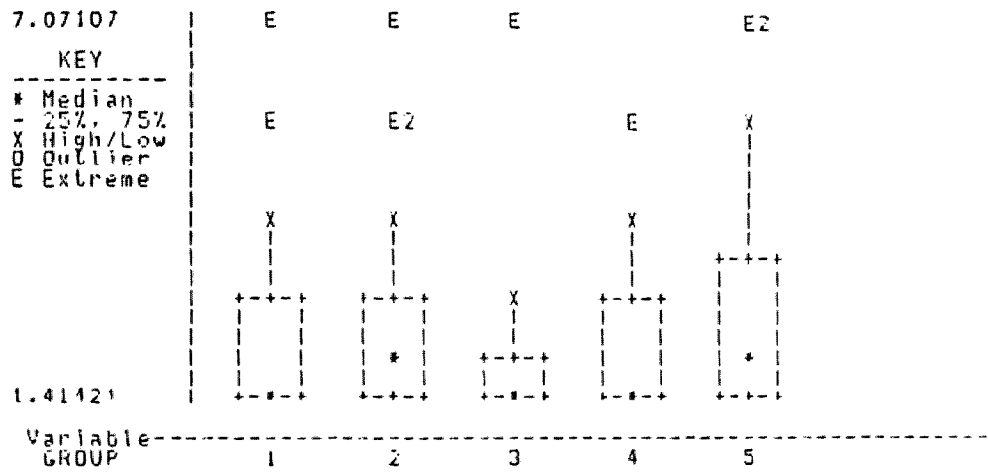
Box-Plots For Variable .. POBJ8



\*\*\*\*\* ANALYSIS OF VARIANCE --  
 Box-Plots For Variable .. POBJ9



Box-Plots For Variable .. POBJ10



## APPENDIX J

Table of Case Numbers with  
Standardized Residuals That  
Exceed 3.0 in Absolute Value  
for Hypotheses 1 Through 7

# APPENDIX J

## TABLE OF CASE NUMBERS WITH STANDARDIZED RESIDUALS THAT EXCEED 3.0 IN ABSOLUTE VALUE FOR HYPOTHESES 1-7

	Pobj 1	XX 1	Pobj 2	XX 2	Pobj 3	XX 3	Pobj 4	XX 4	Pobj 5	XX 5	Pobj 6	XX 6	Pobj 7	XX 7	Pobj 8	XX 8	Pobj 9	XX 9	Pobj 10	XX 10
Hypotheses	75	24	79	24	29	28	79	24				24	29	24		19	29	24	22	22
	92	27	91	32	98	32	92	54	--	--	92	53	79	32	--	24	79	27	29	67
1 and 4		28		83		83						88	92	83		28	92	32	54	83
				88		92						92		88		75			79	88
				92		98								92		83		83	92	
																88		88		
																		92		
Hypotheses	25	7	24	7	33	33	24	7	--	--	24	7	24	7	7	7	24	7	24	28
2 and 5			30	28								28		28	28	28		28		
Hypotheses	62	20	25		22	21	62	39			62	25	22	29		16	22	20	17	17
	124	21	57	--		25		134	--	--		38	62	21	--	21	62	25	22	46
3 and 6		124	62			57						57		25		53		57	39	57
			111			62						62		57		57		62	62	
						111						111		62		124		111	134	
						125								111						
Hypothesis	75	24		24	29	28	79					24	29	24	67	28	29	32	22	22
	92	53	--	32	98	32	92	24	--	--	--	53	79	32	75	75	79	83	29	67
7		88		83		83		54				88	92	83			92	88	54	83
		92		88		92		67				92		88						88
				92		98								92						

Note. Pobj = Program Objectives

XX = Job Importance Objectives

Note. Dash (--) indicates no case number with standardized residuals that exceed 3.0